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THE CARE OF THE PREGNANT WOMAN.

BY ARCHIBALD DONALD, M.D.,

PROFESSOR OF OBSTETRICS AND GYNAECOLOGY, UNIVERSITY OF MANCHESTER.

SINCE the war began there has been an increased interest manifested in the welfare of the future generation. Many articles and letters have been written in the medical journals and in the public press calling attention to the importance of increased care of the infant before birth, during birth, and in the early months of its life. I am in thorough agreement with the aims of these writers. But I think there is a risk that the public may be led to expect too much from "antenatal" treatment, and also that a good deal of energy may be directed on the wrong lines.

"ANTENATAL" TREATMENT.

The term "antenatal" is comparatively new, or has only been used freely within the last few years. It is an objectionable word, compounded of an adverb and an adjective, and is often used by those who are fond of it in an ambiguous way. "Antenatal treatment" means, I suppose, treatment of the unborn child, but "antenatal treatment of the expectant mother" means literally the care of the expectant mother before she is born. What is really meant is the care of the pregnant woman, but that is perhaps too vulgar an expression for use by officers of health.

The unborn child can only be influenced through the mother. Anything which improves the mother's health will probably give the child a better chance, although it does not always happen that conditions which cause deterioration in the mother's health affect the child to any great extent. The fetus is generally the last to suffer.

The care of the pregnant women in large towns has always been a feature in the work of maternity hospitals. Certainly in Manchester, the city of which I can speak from personal knowledge, this point has never been lost sight of. Even before the opening of a hospital with provision for the indoor treatment of a large number of maternity cases, St. Mary's Hospital always did work in this direction. Thirty years ago, when a woman applied to the hospital for a ticket which entitled her to attendance during her confinement, it was my duty, as obstetric assistant surgeon, to take notes of her obstetric history, and to inquire into her present health, and, if advisable, to examine her. If the conditions were found to be not satisfactory, the patient was admitted to hospital for care during her pregnancy; or if the case were less severe, she was put on a list to be visited at her own home by one of the medical officers. Further, there was a large out-patient department at which many of these patients reported from time to time. This system still continues, but with the increased number of beds many more cases are admitted as in-patients, and the systematic examination of primigravidae is carried out. It is not differentiated as a special department labelled "antenatal" or "prematernity," but is included as part of the work of a maternity hospital. A similar system holds in most of the cities and some of the larger towns.

We may inquire as to what are the points to which attention should be directed in the care of the pregnant woman. The fundamental needs, of course, are sufficient food, good sanitary conditions, and freedom from occupations which are unhealthy or too arduous. It is not necessary to dwell on the importance of these.

Special care may be needful in cases of abnormal pregnancy. These cases we may consider more particularly with the object of ascertaining what calls there are for supervision during pregnancy, and how far the regular supervision of all pregnant women would be useful in the saving of infant life. We must here distinguish between those cases in which the patient is almost certain to apply for help of her own accord and those in which she is not likely to do so.

The diseases of pregnancy may be classified thus:

1. *Diseases Coexisting with Pregnancy.*
   (*a*) Diseases liable to affect the course of pregnancy. These include acute infectious illness and some other infectious and general diseases, such as syphilis and kidney disease.
   (*b*) Diseases aggravated by the coexistence of pregnancy, which include heart disease and kidney disease (nephritis, pyelitis), tubercle and diabetes.
2. *Diseases due to Pregnancy.*
   (*a*) Toxaemias (excessive vomiting, albuminuria, chorea gravidarum and eclampsia).
   (*b*) Abnormalities of uterus (retroversion and prolapse).
   (*c*) Abnormalities of ovum (moles and diseases and anomalies of placenta).

In almost all of these diseases the symptoms will cause the patient to seek advice. She will almost certainly apply to a doctor or midwife for help in the following diseases—acute infectious illness, syphilis and gonorrhoea in their acute stages, tubercle, acute nephritis and pyelitis, and diabetes; also in excessive vomiting, chorea and eclampsia, in cases of retroversion with incarceration, and bad cases of prolapse, and in all cases of haemorrhage during pregnancy.

This list, of course, includes the majority of the diseases of pregnancy, but there are some cases in which the patient may not realize that there is trouble which may prove to be serious. Experience shows that this happens in some cases of heart and kidney disease, and some of the toxaemias (albuminuria and pre-eclamptic toxaemia). These are the cases in which promptness of treatment during pregnancy is most likely to be followed by a good result. If we read the records of the diseases of pregnancy treated in maternity hospitals, we find that a large proportion of the cases are supplied by these diseases.

Cases of syphilis acquired before pregnancy come under a different category. As syphilis is probably the most common cause of abortion and premature labour it is most important that these patients should receive treatment, but the treatment has to be begun as soon as the diagnosis is made, whether the patient is pregnant or not. In view of the report of the Royal Commission on Venereal Diseases, these patients are not likely to be overlooked in the future.

It may be urged that, in addition to the diseases of pregnancy which require treatment, there are many conditions which, if left alone, will cause abnormal labour, and that these may be altered for the better before labour begins. It is very rarely we find that anything can be done before the onset of labour, except in cases of moderately contracted pelvis, in which it may seem advisable to induce labour. But it requires a great deal of experience to be able to recognize the slighter degrees of contraction, and still more experience to be able to predict the probable character of the labour. The history of previous pregnancies may help, but is not in itself sufficient.

As regards abnormal positions and presentations, these are practically only to be rectified after labour has begun. The diagnosis of placenta praevia is rarely made during pregnancy, and even in that case the treatment is only attempted during labour.

If we review all these conditions that have been passed under consideration, we will find that there is a comparatively small number of cases in which we can hope to influence the life of the child by "antenatal" treatment only, even under the best possible circumstances.

The diseases of pregnancy suitable for treatment in a maternity hospital resolve themselves into some of the toxaemias—namely, excessive vomiting, chorea, albuminuria and eclampsia—and perhaps some cases of haemorrhage in pregnancy, and certain forms of bad heart disease, but these are admitted more with the view of placing the mother under suitable surroundings, should dangerous haemorrhage or cardiac failure come on, than in the hope of saving the life of the child.

These diseases, after all, account for a very small proportion of stillbirths. If we inquire as to the causes of death *in utero* we shall find that abortion or miscarriage is by far the most important. It is estimated that there is one abortion to every six confinements. In most of these cases the cause of the abortion is something which existed before the pregnancy, and for which treatment during the pregnancy is useless. No doubt a large number are due to syphilis. There are many which are the result

of troubles which have been brought on by previous confinements. Others, again, are incapable of explanation in the present state of our knowledge. There are numbers of women who have habitual abortion, in whom no syphilitic mischief can be found.

The next important cause of stillbirth is undoubtedly abnormal or complicated labour. Many infants are sacrificed from want of sufficient knowledge or skill on the part of the attendant. But the mischief of unskilful attendance does not end there. Not only is the particular child sacrificed, but very often the mother is rendered incapable of having more children. This "one-child sterility," or acquired or relative sterility, has an important bearing on the birth-rate. One must not forget that it is really a more important thing that a young mother should make a good recovery, with the conditions normal afterwards, than that the particular child should be born alive.

Conclusions as to Antenatal Treatment.

To sum up, we arrive at the following conclusions:

I. That the supervision of all pregnant women would mean a great deal of unnecessary trouble, as in the majority of cases in which danger threatens during pregnancy the patient will voluntarily apply for help.

II. That, even if supervision were greatly increased, the results in the saving of infant life would be comparatively small.

III. That there are several much more important causes of fetal death than the diseases of pregnancy, and these would not be dealt with in a scheme of supervision during pregnancy. Under these we would mention particularly abortion and stillbirths caused during delivery. It must always be borne in mind that sterility, either absolute or relative, has a most important effect on the birth-rate.

THE COMPULSORY NOTIFICATION OF PREGNANCY.

The notification of pregnancy has been discussed in two recent articles. There is a note on the subject by Dr. J. W. Ballantyne,[1] who endeavours to sum up the "pros" and "cons." After carefully studying the "pros," I find that they practically amount to this:

(1) "Under compulsory notification we should have figures showing the number of infants on the way, which, when compared with the number of births of living children, would give us the antenatal losses."

This, however, is not quite correct. We should have to find out and deduct the "natal" or "intra-natal" losses—or, in other words, all those cases in which the infant was alive when labour began but perished during delivery. Even then the statistics which we would obtain would be of no use unless the system were universal and compulsory. Further, if we did get statistics, they would not be of any great value. I must confess that I think this desire for statistics can be overdone.

(2) "It would impress upon the general public the emphasis which is now being laid upon pregnancy."

That, I think, can be done without compulsory notification, and with much less trouble.

(3) "It would be a stimulus to the study of all matters relating to the hygiene and pathology of pregnancy and antenatal life."

As far as the medical profession is concerned, I do not believe it would be anything of the kind. Those who specialize in these matters are sufficiently alive to the importance of this subject, and I do not believe that the mere fact of having to notify cases of pregnancy would stimulate the general practitioner to study these cases more carefully.

(4) "It might serve to check the frequency of abortions and the use of abortifacient means."

If this means that careful treatment at an early stage might prevent some miscarriages, I admit the possibility. If it means that compulsory notification would prevent a woman trying to induce abortion, I disagree. This sort of woman would not notify her condition.

Dr. Ballantyne recognizes the following difficulties of compulsory notification:

(1) The interference with the privacy in intimate home affairs.

(2) The difficulties in details and methods of the notification.

(3) The introduction of many new difficulties into health matters.

He thinks that for the notification to be of any value it would have to be made early, so as to check third and fourth month abortions. He is evidently in favour of some sort of notification, but not of compulsory notification, unless it "comes spontaneously from the women's organizations."

Dr. Moore, Medical Officer of Health for Huddersfield, in his Milroy Lecture,[2] advocates universal notification of pregnancy. He has been much impressed by the work which has been done by M. Morel de Villiers at Villiers-le-Duc, reported by Dr. Pinard in the *Bulletin de l'Académie de Médecine*. Dr. Moore quotes the Order of the Council, which consists of ten articles. The first declares that every pregnant woman in the village who is not in possession of sufficient means to allow her to meet the necessary expense should have the right to require the assistance of the village authority. The second states that if she wishes to have this help she must declare her condition before the seventh month, at the office of the mayor. A midwife (chosen by the patient) is then requested to visit the patient "to ascertain that there is present neither albuminuria nor dystocia either of the child or of the mother, nor dangerous presentation." The third article provides that if the midwife considers it necessary to call in a medical man she must at once notify the authority, who shall then request a medical man, at the choice of the patient, "to take the measures necessary to bring about the confinement successfully." The other articles are concerned with the payment of fees and grants, with provision of milk sterilizing apparatus, instructions for weighing children, etc.

Dr. Moore anticipates criticism by pointing out that Villiers-le-Duc is a small place, and that we must not expect the same results from larger communities. As a matter of fact the population of the village was 447 in 1804 and 230 in 1903. There were 43 stillbirths from 1804 to 1878 and only 2 from 1878 till 1903. Of course these figures, alone and without explanation, mean nothing at all. The 43 stillbirths might well be the result of half a dozen unhealthy people in the community, or even of one or two unskilled midwives or medical men.

Dr. Moore has now established a system for the voluntary notification of pregnancy, and gives an outline of the procedure adopted by the Huddersfield sanitary authority. The first step is the notification of pregnancy. This is followed by a visit of the assistant medical officer of health (female), and a long list of the matters which she must inquire into is given. Some of these are general, such as the conditions of the patient's home, her economic condition, and the medical history of the patient and her husband. After this the assistant M.O.H. has to draw up an elaborate report on the obstetric history and on the present condition of the patient. In the case of any abnormality she must communicate by letter with the general practitioner indicated by the woman, stating the facts, and leaving the case to him. It is not definitely stated, but apparently the assistant M.O.H. has to make the diagnosis and forward it to the doctor.

It would appear that under Dr. Moore's scheme notification is not required before the seventh month, as he takes the experience of Villiers-le-Duc as a model, and as his assistant does not visit the patient until she is able to make out the fetal head through the abdominal wall. In this he differs from Dr. Ballantyne, who says that if notification is to be of any value it must be early—that is, before the third or fourth month. It is true that notification in the later months would mean that many of the cases of the diseases due to pregnancy in which good can be done would be overlooked until it was too late. But the diagnosis of early pregnancy is by no means a simple affair, and if notification were required there would be many cases notified as pregnancy which would turn out to be something else; while, on the other hand, cases of pregnancy which existed would not be notified. If a patient or a doctor were in doubt probably no notification would be made.

It is hardly necessary to criticise in detail the procedure which, on the advice of Dr. Moore, the Huddersfield sanitary authority has adopted. In order to fill up the schedule

with any degree of accuracy, the assistant M.O.H. must have had exceptional training in midwifery. Even then I think it would be difficult for her to fill up answers to some of the questions. As an example, she must inquire into the causes of previous miscarriages, and must enter them under the following heads: "Cardiac, diabetic, nephritic; traumatic, displacements, abortifacients; lead, alcohol, specific disease."

Then there is the examination of the "expectant mother," which is of a most thorough description, beginning with the heart and lungs and going on to the abdominal examination, by which the expert assistant M.O.H. diagnoses the presentation of the child and the relationship of the head to the abdominal parietes. Finally (if necessary) she takes the pelvic measurements, examines the urine, and investigates abnormal reactions (urine and vaginal).

If this scheme should be made universal, there are not enough experts to go round.

These two writers I have quoted no doubt view the subject from different aspects. Dr. Ballantyne is well known for his researches into the pathology of the unborn child, and has been an enthusiastic advocate of *ante-partum* clinics, and no doubt he regards notification as a means of increasing the numbers in these clinics.

Dr. Moore is a medical officer of health, and apparently would like to extend the power of officials in a new direction. Every one must admit that the work done by medical officers of health and by public health departments has been most valuable. In general matters, such as are connected with the homes and the occupations of the people, they have done wonders. In the notification of various infectious diseases they have limited and stamped out many epidemics which would otherwise have been disastrous. But there is a different principle underlying the notification of pregnancy to all previous notifications. The object up till now has been to prevent the spread of disease and to safeguard, not the patient, but those with whom the patient comes in contact. In the notification of pregnancy the object is to look after the patient herself. If this principle is accepted, there seems to be no reason why notification should not be extended much further. Any one who has had an attack of appendicitis is liable to have another, and it may be argued that the first attack should be notified and the patient kept under supervision in his or her own interest. If it is said that in the case of the pregnant woman the object is to save the life of the child, it is open to reply that every adult man or woman is a potential father or mother, and therefore ought to be supervised. It might be argued that it is more important that every woman who was sterile (absolutely or relatively) should be compelled to notify the fact. This is perhaps a *reductio ad absurdum*, but I think that the introduction of this new principle into notification would threaten the community with an undue interference and supervision by the State or municipality. It is contrary to the spirit of this country, and I feel certain could never be carried out uniformly. The State might make it compulsory that pregnancy should be notified, but it could not compel a woman to receive a visit from a female assistant M.O.H. with her preposterous schedule.

Practical Suggestions.

I have already pointed out that the care of the pregnant woman is a matter which has not been altogether overlooked in this country, and I think if any improvement is to take place as regards the diminution of stillbirths, it ought to be on the lines of the further development of those institutions which already exist. In all large cities we have maternity hospitals, and these do more than merely treat patients. They act as centres of education for nurses, for midwives, for students, and even for qualified medical men. In Manchester and district the amount of work done is very large, but it could be greatly increased and developed if larger funds were available.

I thoroughly agree with Dr. Moore that the co-operation of the medical officers of health and the health authorities generally with the medical profession is most important, but I believe that much more good would be done at much less cost if the cities were to subsidize maternity hospitals instead of creating a new system. If found advisable, smaller centres might be established under the hospital control in various parts of the town. This was done by St. Mary's Hospital, but its system of hostels had to be given up for want of funds. But, after all, it is perhaps better to have one large central institution in which expert help can always be obtained, rather than a number of small places at which the attendance of experts is only occasional. In the country districts I think it would be well that various villages should be grouped together and some sort of maternity hospital established.

Most important of all, however, is that the treatment should be in the hands of those who are really skilful. This means that the greatest stress should be laid upon education.

1. The pregnant woman should be taught how to take care of herself and warned of certain dangers that may arise. In this direction I regard those agencies which have been established with this object, such as are known as schools for mothers, as institutions which ought to be encouraged.

2. The education, both theoretical and practical, of midwives has been much improved lately, but there is still much room for improvement in some districts. The routine examination of the urine is most important and would reveal many of the cases of toxaemia which require treatment.

3. The medical students throughout the country should receive a more thorough training in practical midwifery than is at present the case. In Manchester the medical student is compelled to live in the maternity hospital for a period of four weeks while "taking out" his practical midwifery.

4. More facilities should be given for medical practitioners to have post-graduate instruction. A week or two spent in a modern maternity hospital would bring many of them up to date in methods of diagnosis, of aseptic precautions, and of treatment generally.

5. The study of the pathological problems connected with abortion and stillbirth should be stimulated by the provision of well equipped clinical laboratories in connexion with maternity hospitals.

The large cities are now provided with maternity hospitals, and this system should be extended to the smaller towns, and even to the country districts. Hospitals should be established in different areas, and should be visited from time to time by an obstetric surgeon of experience, whose services should be available, if required, for consultation with the local medical men, or for the more serious emergencies. In this way the medical men in the district who would be attached to the hospital would have their interest increased not only in the care of the pregnant woman, but also in her confinement and in the care of the newborn child.

The solution of the matter, I feel sure, is not in statistics and notification, but in education and research.

The medical officers of health can do a great deal for the future generations if they will use their influence to try and persuade the health committees throughout the country to pursue this work through the institutions that are already in existence, and to extend the same system to the less densely populated parts of the country.

I have said nothing as to the case of the newborn child. This opens up another large subject, which is outside the scope of this paper.

References.

[1] BRITISH MEDICAL JOURNAL, April 22nd, 1916, p. 594. [2] *Lancet*, May 6th, 1916; abstract with quotations in BRITISH MEDICAL JOURNAL, May 13th, 1916, pp. 693-4.

SYMMERS (*Journal Amer. Med. Assoc.*, May 6th, 1916) has studied 314 cases of anatomical lesions in late acquired syphilis at Bellevue Hospital, New York, as detected at 4,880 necropsies. Syphilitic aortitis occurred 175 times, or in 55.7 per cent. of the total number of syphilitic cases; the arch alone was involved in 63 per cent., dilatation of the aorta was detected in 22.3 per cent., aneurysm of the aorta in 45 cases (25.6 per cent.), the arch being the part involved in 34 cases, or just over three-quarters of this subseries. The aortic valves were sclerotic in 64 cases, and definitely retracted in 27, or 42.2 per cent. In 71 per cent. of the 175 cases of syphilitic aortitis, associated syphilitic changes beyond the vascular system were noted, many of them being in the skin and visible mucous membranes. The coronary arteries were sclerotic in 26 per cent.

TUBERCULINS AND VACCINES

*FROM THE GENERAL PRACTITIONER'S POINT OF VIEW.**

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I DO not propose to go into the theory of vaccines or to produce statistics, but to note a few points which have occurred to me through my experience as a general practitioner, and may be of service to those who have not so far made use of vaccines and tuberculins. I bracket these, for I believe that the tuberculin which is increasing in favour, and will eventually supersede the others, is the bacillary emulsion (B.E.) and this is practically a vaccine. The organisms are ground up in an agate mortar before being mixed with the diluent.

For diagnosis, old tuberculin T.A.—a solution chiefly of the exotoxins, prepared by filtering a sterilized tubercle culture through porcelain—is usually employed.

The question of expense is often important, and here the employment of stock or autogenous vaccine comes very much to the fore, more so in some places than others. Here we are fortunate, for the new pathological laboratory attached to the Wolverhampton General Hospital prepares autogenous vaccines at a very moderate fee. Some time ago a patient of mine consulted a London physician, and was provided with an autogenous vaccine for chronic nasal catarrh. The fee was 30 guineas, and the patient was not at all benefited by the course of injections. Last year another patient had a similar vaccine for a similar purpose prepared at our laboratory—fee, 2 guineas. He was markedly benefited by the treatment, and showed his appreciation by urging several of his friends to apply for the same treatment.

In deciding whether or no to use a vaccine many considerations arise, and the cases may be roughly divided into four groups:

1. Those in which a vaccine is usually successful and more likely to succeed than other remedies which used to be employed aforetime.
2. Those in which ordinary remedies have so far failed, and we know that a vaccine may cure, though not so frequently as in Group 1.
3. Cases of serious disease, in which the use of a vaccine can do no harm, and may decidedly increase the patient's chance of recovery.
4. Cases in which, though vaccines often fail, yet other remedies do so almost invariably.

There are also a number of cases which, though not cured by vaccines, yet may be very much relieved by their use.

Group 1.

Amongst these cases are those of recurring boils and carbuncles; here a vaccine rarely fails. A stock vaccine usually succeeds, but when the patient can afford it I certainly prefer an autogenous vaccine. These are cases in which there is no special urgency, so that there is time to prepare the vaccine from the organisms found in the patient's own boils. I do not remember a single failure with an autogenous vaccine used for this trouble, but I have known a stock vaccine fail occasionally.

I have had very good results from a vaccine in a very widespread, pustulous rash accompanying scabies.

Other cases which are very much benefited by a vaccine are those of chronic nasal and post-nasal catarrh when this is due to the pneumococcus. I have now a case of this which has benefited most remarkably; even some accompanying deafness of over ten years' standing is distinctly better.

The chronic tracheitis of old people—commonly called bronchitis—is also often due to an infection by the pneumococcus, and here a vaccine will often work wonders, but usually it must be repeated. Here also I much prefer an autogenous vaccine.

The cystitis due to infection of the bladder by *B. coli* usually clears up quickly with a vaccine. An autogenous vaccine is almost imperative owing to the large variety of coliform organisms which exist. Amongst these cases the most successful are those in elderly women.

There are, however, one or two points of caution in dealing with cystitis due to *B. coli*. If the patient be an old man with a large prostate and some residual urine, then the vaccine will fail. I tried to get over this difficulty by combining vaccine treatment with regular irrigation of the bladder by antiseptic solutions. The result, though not a cure, was better than with either method of treatment alone. Another point in dealing with a bacilluria is to be sure that the urine is kept alkaline.

Vaccine is also very successful in cases of chronic gleet and in some of the secondary infections of gonorrhoea, and I have found it useful in a case of only a few weeks' standing. It is, however, a difficult vaccine to prepare, and a stock vaccine rarely does much good.

Group 2.

Amongst these there may be placed acne, for though vaccines are often very successful, yet they often fail. I have known a stock vaccine give good results, but an autogenous is generally preferred.

I would also place here nasal catarrh not due to pneumococci. I have had some success, but not nearly as much as I had hoped, from my reading of published results.

I have seen a case of obstinate catarrhal asthma, which had for weeks resisted everything, yield almost at once to a vaccine prepared from the patient's nasal organisms. I have used a vaccine in hay fever, with no benefit, but have not tried the pollen vaccine.

I have used Bordet-Gengou's whooping-cough vaccine, and certainly those cases in which I used it got well in good time.

In nasal and tracheal infections two or more organisms are often present, and a mixed vaccine must be prepared, and the proportion of its constituents varied during treatment as one or the other organism yields more readily.

Group 3.

Perhaps the most important disease in this group is pneumonia. I am well aware that I am on debatable ground, but I have never heard of any harm following the use of vaccine in pneumonia, and I have had some very good results from its use. I begin directly I believe the case to be one of pneumonia, and repeat the dose if the temperature rises again after the fall, which usually follows within twelve hours of the injection. This is essentially an instance in which a stock vaccine must be used, as the patient may be dead or better before there is time to prepare an autogenous vaccine. Some start with a stock and go on with an autogenous vaccine when ready.

General septic infections also come under this head—septicaemia and malignant endocarditis.

Group 4.

As we get more skilful in the preparation and use of vaccines this group will grow smaller. At present I fear the general practitioner will place in it a number of diseases.

A prominent member of this group is rheumatoid arthritis. Here, at times, a vaccine may do good or arrest the progress of the disease. The most promising cases are those due to septic absorption from the pus about the teeth in pyorrhoea; the vaccine should be prepared from this pus. So far my experience has not been hopeful. I am inclined to believe that the difficulty is due to the dense tissues and poor vascular supply of the parts which are affected in this disease. I would compare with it chronic suppuration of the middle ear; here, also, I have found vaccines fail. Colitis, some skin cases, and septic anaemias may also be mentioned here.

Dosage.

The reaction of the patient to the first dose must be the guide; it if be severe then the second dose should be only slightly, or not at all, increased.

The first dose will be regulated by the urgency of the case and the condition of the patient. In a bad case of pneumonia a full dose should be given; in a case of a frail invalid with bronchopneumonia a small dose at first, lest

* Read before the meeting of the Staffordshire Branch of the British Medical Association.

the reaction should injure the patient. I usually give 50 million in an acute case and 20 in a chronic.

In a case of pleurisy in a boy (about 5 years old) I once gave 75 million for the second dose. His temperature rose the same day to 104° from only just above normal. It soon came down, and the patient made a complete and rapid recovery, though a surgeon who had seen him before the injection thought an empyema was present and needed operation.

The interval between the first and second injection should usually be about four days, gradually extended by a day to eight days, and then a day more every second or third injection. In a few cases where the patient's condition is critical an injection may be given daily. In some to maintain the improvement the injections must be continued over a long time at intervals of, say, once a month; in these cases the vaccine does not eradicate but keeps down the disease. If an injection is followed by a rise of temperature this must have quite subsided before the next dose is given.

Site of Injection.

It is of no importance at all where the injection is given so long as it is in a region where the vaccine can be readily absorbed into the general circulation. If the dose is bulky, or when using concentrated vaccines and tuberculins, it is wise to choose a place where there is plenty of loose connective tissue. For this reason the arm above the elbow is preferable for large doses, and the injection must be made well below the skin. At times I have found that when injections given below the elbow caused unpleasant swellings, the difficulty was overcome by giving them above the elbow.

Between the shoulders was a site often chosen; a disadvantage is that if there is any local reaction it may make it awkward and painful for the patient to lie down. It has the advantage that it impresses the patient more, and would be useful for this reason in those cases in which there is a neurotic element. In dealing with our modern rulers—the great unwashed—it is well to paint on the skin a spot of iodine solution and inject through this; with others it is enough to clean the skin with spirit. When withdrawing the needle I always press on its track with a pad of wool to close it, and wipe off any spots of vaccine which may have escaped. The needle and syringe must be scrupulously sterilized, and should be washed out with spirit directly after use; if left to do at a more convenient time the piston may have stuck to the barrel.

The needles I prefer are those made like a dentist's injection needles. The needles (supplied in sterilized tubes) are separate from the mount, to which they can be readily attached; by using these one always has a sharp point and can use a new needle every time if advisable. I always keep a platinum-iridium needle in reserve, but they get blunt far too readily.

Any readily sterilized syringe will do, but the long narrow ones have the advantage that it is very easy to regulate the dose with great accuracy. As metal expands more readily than glass, if a glass syringe be boiled with a metal piston in position the glass will probably break. I prefer the syringe to be graduated in cubic centimetres, but this is immaterial, though it is necessary to make sure whether the strength of the vaccine is stated per cubic centimetre, or per 20 minims, or per phial. I have known the label to be most annoyingly ambiguous on this point.

If a small file is not at hand, a key with a hole up the stem does excellently for breaking off the point of the vaccine phial, which should always be well shaken before being opened, as the organisms are apt to settle at the bottom and so spoil the dosage. An important point is always to make a note of the date of injection and the dose at once. When using a series of phials put up in a box, the inside of the lid or bottom of the box makes a convenient place for a prompt note that will always be at hand when giving the next injection.

Tuberculins.

Those who have used tuberculin most are those most strongly convinced of its value, and their conviction increases as time goes on. Often objectors have not used it in suitable cases or in the right way. So many when asking for a remedy for tuberculosis mean something which will cure advanced cases. So far this is still to seek, and I fear will be for many a long day.

Tuberculin is an important aid to diagnosis, whereby we can be positive in cases where without it we should still be in doubt. It is in discovering tubercle in its early curable stages that our chief hope lies in dealing with a disease whose annual death-rate is equal to 75 per cent. of our total killed for the first year of war. I am aware that some hold the use of tuberculin for diagnosis to be risky, but their reasons when examined do not convince; the ability to diagnose tubercle in its early stages is of such paramount importance that even if there were some slight risk it would be justified.

We are told that the injection may stir up latent trouble, but we should not test a perfectly healthy individual, and, if tubercle be found, is it not reasonable to suppose that it is at the root of the trouble which caused the patient to consult us, and not really latent at all? It is just this "stirring up" of an existing tuberculous focus that is such a valuable aid in diagnosis, often enabling us to localize the trouble. This "focal reaction" clinches our diagnosis. It soon subsides, and in a few days the patient is better than before.

It is also frequently stated that nearly every one would react to tuberculin. I have personally found this is not the case. When we consider the large number of people who have tuberculous trouble at some time, and overcome it, it is not at all surprising that a positive reaction is so often obtained. No doubt many of these early cases would get quite well without special treatment, but if treated, we may be fairly safe in saying that nearly all will recover.

In employing tuberculin for treatment, it is most important to have the patient's temperature taken regularly, as this settles the dosage. A marked rise would lead one to repeat the last dose or only slightly increase it; further, no dose should be administered until the reaction set up by the previous one has quite subsided.

Provided no mixed infection is present, tuberculin can be administered to a patient with fever so long as the temperature has been noted for a few days previously, in order that we can recognize a reaction on the chart.

The dose is usually increased by 50 per cent. each time in cases showing no, or only slight, reaction. I begin usually with $\frac{1}{10000}$ c.cm., and have safely worked my way up to a dose which, if given at first, would have produced a startling reaction. I begin with two clear days' interval, and slowly extend, as the dose increases, to some weeks when using undiluted tuberculin.

A question of great importance is the matter of mixed infection, and I believe that most failures are due to this not being recognized. I have had some of my best results by combining Dr. Curle's nascent iodine treatment with B.E. I believe the iodine acts on the adventitious infection, and the B.E. then has a fair chance with its own bacillus. I have also known good from the use of a vaccine made from the adventitious organism along with tuberculin.

Though many of our cases are past being cured, yet by the use of tuberculin we can very much delay the progress of the disease.

Another very important point we find in treating a patient with tuberculin is that the sputum becomes less infective, the tubercle bacillus often completely vanishing, even though, from symptoms and physical signs, we know the disease has still a strong hold. This is of great value in preventing the spread of infection.

Some fear giving tuberculin in cases with haemoptysis; I have never known harm follow. In dealing with a number of advanced tuberculous patients a certain proportion will have haemoptysis, and if we treat them with tuberculin we shall still have some instances, though fewer, and these occur in spite of the treatment, not in consequence of it. If the dose given to a patient were largely increased and a severe reaction produced, haemoptysis might be caused, but the fault would be, not with the remedy, but with the method of employing it.

THE Committee of the French Surgical Association has decided that the French Congress of Surgery shall not meet till after the war. It has also resolved to expel all German, Austrian, Bulgarian, and Turkish members.

THE Duma has passed a law authorizing the sale of wine in the wine-growing regions of Russia during the war; afterwards the sale of wines containing more than 12 per cent. alcohol will be prohibited. The law does not affect the prohibition of the sale of vodka.

THE TRANSFUSION OF WHOLE BLOOD:

A SUGGESTION FOR ITS MORE FREQUENT EMPLOYMENT IN WAR SURGERY.

BY

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THE investigations of Crile and Carrel and the more recent clinical and experimental work of Satterlee and Hooker,[1] and of Lindeman,[2] have shown the enormous value of the introduction of whole blood into the circulation, and have emphasized its limitations.

The broad indications for blood transfusion are based on the fact that transfused blood is the best substitute for blood lost in acute haemorrhages. In certain pathological haemorrhages it has definite haemostatic properties, and in some secondary anaemias it acts as a powerful stimulant to tide over the crisis in the disease. In haemorrhagic disease of the newly born brilliant results have been obtained, and recently the procedure has been applied in cases of haemophilia, pernicious anaemia, marasmus, and certain secondary anaemias due to purulent foci, with some very promising results.

In cases of primary haemorrhage in the present war we see the condition of the shock due, not only to the loss of blood, but to the injury causing the same. In secondary haemorrhage the patient's resistance is lowered owing to the absorption of toxins from an infective focus, and there is often, in addition, a lowering in the coagulability of the blood from the same cause.

To combat the alarming symptoms due to the abrupt loss of blood the introduction of normal saline solution is probably the treatment most frequently adopted, and in many cases, usually the less severe, this stimulates the patient, allows his natural resources to assert themselves, and recovery takes place. But the addition of salt solution to the circulation is at best only a temporary measure, and merely makes up for the loss of fluid, which is only one factor in the condition.

The Effect of Transfused Blood.

The introduction of whole fresh blood into the circulation at once not only helps to restore the depleted bulk of circulating fluid, but provides the patient with that particular body tissue to the depletion of which his immediate symptoms are due. Moreover, the newly introduced blood (1) acts as a more permanent addition to the body tissues, and (2) carries with it coagulation elements, fresh complement, and, to a varying extent, any antibodies with which the healthy donor's blood is provided. It is a stimulant to the starved haematopoietic organs, as may often be seen by the secondary increase in the blood count within a few days of the operation. The results are more apparent in cases of primary haemorrhage, in respect of which my observations have been limited to cases in civil practice. In secondary haemorrhage, where the factor of sepsis has to be combated, the additional blood often carries the patient over a critical period, and assists his forces to rally to withstand further surgical procedures necessitated by the infective process, or increases his resistance so that by his natural resources he overcomes the infection.

Where infection only is the factor to be combated, blood transfusion is simply an adjuvant to other means of treatment, unless a specific antibody can be introduced, as has been done recently by Zingher of New York, who injected blood from cured scarlet fever patients to others in the acute stages of the disease, with most promising results.

Possible Dangers of Blood Transfusion.

The occurrence of haemolysis during or after blood transfusion has occupied a good deal of attention. The milder degrees of incompatibility between the donor's blood and that of the recipient result usually in a slight chill and a rise of temperature (sometimes up to 102° F.). These symptoms are not uncommon even between familial bloods, and should occasion no alarm. The reaction is due, apparently, to the introduction of a foreign protein material or the liberation of some serotoxin. If any actual haemolysis occurs in these mild reactions, it must be very limited, as the great majority of patients show no haemoglobinuria. A greater degree of incompatibility is indicated by a chill and rise of temperature with slight icterus and haemoglobinuria, and the most serious degree by these symptoms very much intensified, followed by collapse and death.

Selection of a Donor.

A robust and healthy donor can withstand the loss of from 600 to 1,000 c.cm. of blood without more than moderate temporary disturbance, and I have seen no ill effects in any donor following the transfusion, provided he is kept at rest for twenty-four hours afterwards. It is a simple matter at the end of a transfusion to give the donor a quantity of saline equal to the amount of blood withdrawn from his circulation. Donors can be sought for amongst the patients suffering from sprains, minor fractures, etc., who are in good physical condition but unfit for duty. The use of these men as donors in no way prolongs their period of convalescence. Inquiries, of course, should be made of the donor as regards previous illness, such as syphilis or tuberculosis, and, if feasible, a Wassermann reaction should be done.

Preliminary Haemolysis Tests.

Tests for haemolysis have been devised which meet the ordinary requirements for cases of haemorrhage. These should, if circumstances permit, be performed before transfusion is carried out. But this may be impossible or the condition of the patient may make it imperative that no time should be lost. The occurrence of a serious degree of haemolysis is uncommon, and the fatal outcome in Case III may perhaps be attributed to the use of a second donor, for the possibility of a haemolytic reaction between three bloods is much greater than between two. A rapid and simple method of testing donors for transfusion is that devised by Rous and Turner.[3] In some of the anaemias and in cases of sepsis there are very probably products of absorption in the tissue cells of the recipient which by the introduction of fresh blood may be disturbed or set free in such a way as to produce a reaction manifested by chills and fever and possibly haemolysis.

Method of Transfusion.

Of the various methods of blood transfusion those involving the transference of the blood by an intermediate vehicle are to be preferred. The end-to-end anastomosis of artery and vein first advocated by Carrel, or the interposition between them of a paraffin-coated glass tube is a surgical procedure which necessitates considerable skill on the part of the operator and his assistants and consumes a valuable amount of time. They are not applicable when transfusion must be done at the bedside, and the amount of blood introduced cannot be estimated except in the most approximate fashion. Of the several indirect methods there are three in general use: (1) syringes and cannulae, (2) the Kimpton or similar cylinder with which sodium citrate [4] or hard paraffin may be used as an anti-coagulant, (3) the Unger two-ways stopcock.[5]

It has been argued that the saving of time is a great factor in commending any particular method of blood transfusion. But this holds good only up to a certain point, and a too rapid introduction of blood into a patient's circulation has more than once led to cardiac dilatation and a fatal issue.

The Syringe-Cannula Method.

The method of blood transfusion which up to the beginning of the war I found most applicable in civil practice [6] is the syringe-cannula method. It is with slight modifications the method popularized by Lindeman of New York, who has placed it on its present basis of efficiency.

The instruments used are a set of six 20 c.cm. Record syringes, two hollow needles which fit the syringes and are as far as possible of the same bore as the tip of the syringe, two 2-in. rubber tubes armed with metal tips which fit the needles, and a small set of dissecting instruments, the last named to be used when a superficial vein cannot be entered by direct puncture through the skin. If Record syringes are unprocurable, ground glass syringes of the same capacity will be found to answer almost as well, although they require more care in handling. The cannula used is of the pattern recommended by Lindeman, and contains a closely fitting inner hollow needle, which

projects beyond the end of the cannula and is bevelled in the usual way. Its introduction into the lumen of the vein is shown by the appearance of blood at the hub of the inner needle, and the latter can then be withdrawn, leaving the smooth tip of the cannula in the vein; in this way injury to the delicate intima and consequent clotting is avoided. Transfusion may often be carried out successfully with the ordinary sharp-pointed needle, but the increased possibility of clotting must be taken into consideration. Apart from the cosmetic effect and a slight saving in time and trouble, the method of introducing the needle or cannula into the vein is a matter of minor importance. It is a simple matter to cut down upon the vein under local anaesthesia and introduce a blunted needle or small olive-tipped glass cannula.

All instruments are sterilized by boiling. It should be noted, however, that with the Record syringes recently issued sterilization in methylated spirits is preferable, as the syringes are liable to crack when being boiled. Two 1-pint bowls of normal saline, one warm and one cold, and a small bowl containing about 1 oz. of sterilized liquid paraffin, are also required. The cold salt solution is used for washing out the syringes, the warm solution for injection through the cannulae to clear them of blood. The syringes, rubber tubing, and cannulae are lubricated by drawing through them the sterilized liquid paraffin.

Technique of Blood Transfusion.

The skin over the antecubital region of the recipient's left arm having been sterilized by painting with tincture of iodine, sufficient constriction is applied just below the shoulder to prevent venous return. The most accessible vein is selected, and the needle or cannula introduced and allowed to fill with blood. The constriction is now removed, and a 20 c.cm. syringe full of saline, with rubber tube and coupling attached, is connected with the cannula. Sufficient salt solution is now forced very slowly but continuously through the cannula to clear it of blood and prevent clotting. Constriction is now applied to the donor's arm until the veins are well distended and the skin pink but not cyanosed. An elbow vein is entered, and an empty syringe and rubber tube attached. If the cannula be introduced in a direction opposite to that of the blood stream it will be found that the syringe will fill more easily when the piston is withdrawn. The assistant now quickly withdraws 20 c.cm. of blood from the donor's vein, disengages the syringe from the rubber tubing, and passes it to the operator, who substitutes it for the saline syringe previously attached to the rubber tubing on the recipient's needle. The blood is injected into the recipient's vein quickly, and when the syringe is emptied it is immediately replaced by the saline syringe, and sufficient salt solution forced through slowly but continuously to clear the tubing and needle of blood.

In the case of the donor, a saline syringe is attached between the successive withdrawals of blood, and a small quantity of salt solution forced through slowly and continuously to keep tubing and needle clear of blood. After each blood filled syringe has been emptied the nurse flushes it out with cold sterile saline, and at intervals relubricates it with liquid paraffin. In this way syringes can be used an indefinite number of times, and the amount of blood which it is possible to transfuse is limited only by the giving capacity of the donor and the receiving capacity of the patient.

The recipient should be watched carefully for any signs of vasomotor disturbance. Not infrequently he will complain of some substernal or abdominal pain after the first few syringefuls of blood have been injected. These symptoms are probably caused by the introduction of a foreign protein. It is at this juncture that the operator should proceed slowly, and if necessary suspend operations for several minutes until the patient has quieted down. If the transfusion is to be suspended the cannulae should be kept patent by the slow but continuous injection of salt solution.

Every endeavour should be made to cause as little movement as possible of the end of the cannula in the vein, and it is on this account that the short piece of rubber tubing is used. If the cannula system is found to be blocked to the passage of saline the rubber tube and coupling should be removed and their patency ascertained. If clot is present here it can be forced out with saline, and the operation resumed. If clot occurs in the needle it is usually to be found in the hub, and can be picked out with fine forceps. If necessary the cannula may be removed, cleared, and reintroduced. Strict attention to the saline introduction will prevent clotting. No doubt microscopic clots in the form of minute aggregations of red cells are introduced, but apparently these cause no trouble. On several occasions I have seen small bubbles of air introduced without any symptoms of cardiac disturbance.

The advantages of this method are: (1) Nothing beyond ordinary surgical technique is required. (2) The amount of blood transfused is known definitely. (3) The procedure is under control at all times. (4) Should symptoms occur in the patient which render it necessary, operations can be suspended for several minutes without risk of clotting. (5) Blood may be transfused slowly or rapidly. (6) The total quantity of blood is outside the body for a period not exceeding twenty seconds, and there is a minimum amount of foreign material with which it must come in contact.

Amount of Blood to be Transfused.

In primary haemorrhage, where the loss of blood is considerable and the shock severe, transfusion up to 800 to 1,000 c.cm. of blood will give the best results, though the amount given must depend on the requirements of the patient and, as noted above, the giving capacity of the donor. Some appreciable improvement may be obtained with smaller amounts, and in any case the procedure should be supplemented by the subcutaneous injection of normal salt solution.

Where small but repeated or persistent secondary haemorrhages occur a smaller amount (200 to 400 c.cm.) produces a haemostatic effect, but where severe secondary haemorrhage has taken place a larger amount should be given to get the best results.

Cases of Secondary Haemorrhage.

CASE I.—Sgt. G., wounded September 23rd, 1915, was admitted to a base hospital on October 6th, 1915, under the care of Major J. N. Gunn, C.A.M.C. There were multiple shrapnel wounds of chest and left arm, and the temperature was 102° to 104° F. Four days later thoracotomy was performed for empyema. By October 22nd there had been two severe secondary haemorrhages from the chest after which there was continuous oozing. By October 30th the condition had become much worse and the administration of salt solution subcutaneously caused no lasting improvement; the red blood cells reached 1,600,000. Blood transfusion (500 c.cm. by syringe-cannula method) was performed; after the first 80 c.cm. the patient complained of some abdominal discomfort and pain in the affected lung, the pupils became dilated and the face flushed. At this juncture the operation was suspended for ten minutes, and then, as the symptoms had subsided, further injections of blood were carried out at moderate speed. That evening the patient had his first good night's sleep without the aid of morphine. The following day the red blood cells numbered 2,500,000, the general condition was much improved, and there was no bleeding from the wounds. His condition continued to improve, and a month later he was evacuated to England. Further accounts from the patient showed an uneventful recovery.

CASE II.—Pte. G. was admitted to base hospital, October 13th, 1915, under the care of Major H. L. Jackes, C.A.M.C. He presented multiple septic shrapnel wounds of both legs, left arm, and head, and his general condition was very poor. The right leg had been amputated below the knee. The temperature was 100° F. and the pulse 132. A few days later various septic wounds were opened and shrapnel removed; the temperature was 100.4° to 103.8° F. On November 5th severe secondary haemorrhage occurred from the stump; the bleeding vessel was secured, and salt solution with pituitary extract administered interstitially. Six hours later the pulse was 140 and very soft. At 4 p.m. the same day 900 c.cm. of whole blood was transfused and immediate improvement was evident. During the transfusion the donor complained of no discomfort, and at his own request was allowed to smoke a pipe throughout the operation. Following this the patient showed great improvement, and on November 15th the temperature was 99° F. and the pulse 90. Three weeks after transfusion the wounds still showed a good deal of infection, and he began to have a septic temperature. At this time a blood culture showed streptococci; a week later he succumbed to the blood infection.

CASE III.—Pte. B., about December 7th, 1915, sustained a shrapnel wound of the left leg, necessitating amputation just below the knee at a clearing station. Several days later he arrived at the base in a toxic condition with severe infection of the stump. Secondary haemorrhage occurred four days later; the femoral artery was ligatured and amputation through the knee-joint performed. For the next week the temperature remained elevated, and infection of stump and thigh was present. On December 19th the red blood cells were 1,988,000 and haemoglobin 45 per cent.; the patient showed poor resistance to the infection and withstood the dressings badly. With the two-way stopcock apparatus of Unger 600 c.cm. of whole fresh

blood was transfused. Following this he showed improvement, and for the next week his progress was fair, but he seemed to have lost heart, and it was thought that a second transfusion would give him the desired stimulus. On December 28th (red blood cells 2,320,000, haemoglobin 60 per cent.) 450 c.cm. of whole blood was transfused with the two-way stopcock from a second donor. More than this quantity was not used, as towards the end of the procedure the patient complained of general discomfort, and within ten minutes after the operation the pulse became weak and rapid, respirations shallow and hurried, and he was only partly conscious. Stimulants were administered, and four hours later he was sitting up in bed smoking a cigarette. The following day intense jaundice was present, and he had passed a small quantity of very dark red urine. The pulse was weaker and there had been considerable bloody oozing from the stump. Twenty-four hours after this (the second) transfusion he became unconscious and died. At autopsy only a few petechiae were found beneath the serous coat of the small intestine, the liver was fatty, the kidneys and spleen dark red. No sign of pulmonary embolus or infarct could be found. Death was due, apparently, to acute haemolysis.

CASE IV.—Rfm. M., under the care of Major T. R. Elliott, R.A.M.C., who was kind enough to furnish me with progress notes, sustained multiple shrapnel wounds on December 14th, 1915. Three days later he was admitted to base hospital in very bad condition, with septic wounds of the left knee, right ankle, and left lung. On the twelfth day after the injury trismus appeared simultaneously with the expectoration of gangrenous pus from the lungs. Tetanus developed rapidly on the next day, causing rigid trismus and board-like abdomen, but no spasms nor difficulty of respiration. The condition of the patient was very pitiable, since he could not void from his mouth the fetid material that continued to come up from the lung abscess on the left side. Antitetanus serum was given until January 6th (a total of about 60,000 units). On the twenty-seventh day after the injury secondary haemorrhage occurred twice from the septic wound of the left knee. The vessel was ligatured. The blood lost was estimated as being rather less than a quart; the patient was much blanched. For the next week the general condition became worse, and there were signs of consolidation at the base of the left chest. No pus was found on exploration. On January 17th, before transfusion, the red blood cells were 2,832,000, and haemoglobin 45 per cent. By syringe-cannula method 860 c.cm. of blood was transfused; a rigor followed at once, and lasted fifteen minutes. On January 18th the red blood cells were 4,600,000, and haemoglobin 60 per cent. Following this the condition improved, and on February 1st a small localized empyema was opened, and the right ankle thoroughly cleaned and drained. By February 16th the patient was rapidly convalescing; the sputum ceased to be fetid soon after the abscess was drained. He was evacuated to England on this date.

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A SIMPLE TECHNIQUE FOR INTRAVENOUS INJECTIONS IN INFANTS.

BY ANN MARTIN, M.D. CORNELL UNIVERSITY.
(From the Sick Children's Hospital, Edinburgh)

ON account of the small size and inaccessibility of the superficial veins in young infants, it is usually difficult, and often impossible, to give intravenous injections or even to obtain sufficient blood for the Wassermann reaction by the methods ordinarily employed. The difficulty is satisfactorily overcome by puncturing the superior longitudinal sinus through the anterior fontanelle, according to the procedure recently introduced by Helmholtz of Chicago.[1]

I have made extensive use of Helmholtz's method in Dr. Fowler's ward in the Edinburgh Sick Children's Hospital during the past winter, and have found it simple and free from risk. The results of saline injections given in this way have been altogether better than those of the subcutaneous method hitherto employed. The following description of the technique of the Helmholtz method, based on a series of 50 cases, is offered as a guide.

The scalp over the anterior fontanelle is shaved and disinfected with iodine. No anaesthetic is required. The child lies in bed with its head raised to a convenient angle on two pillows. A nurse holds the head securely with a hand on either side; the operator stands in front and on the right side of the child. The needle (held at an angle of about 50 to 60 degrees with the plane of the fontanelle) is inserted in the middle line, half way between the anterior angle and centre of the fontanelle. Some little force is required to push the needle through the firm pericranium, and, when the resistance is overcome, one can feel that the point of the needle is in a cavity. The point should not penetrate more than one-eighth of an inch below the surface of the skin since the sinus lies immediately under the pericranium. If the needle is in the sinus blood flows at once into the syringe; should this not happen the needle has gone too deep, and has passed completely through the sinus. This is the mistake usually made by a beginner; it does not, however, cause any damage. It is rectified by gently withdrawing the needle until the point re-enters the sinus, as is shown by a flow of blood into the syringe.

A specially ground needle is essential. The sinus is in many cases so shallow that an ordinary long-pointed needle pierces the inner wall before the entire opening in the end of the needle is through the pericranium. A needle of size No. 20 or thereabouts, with a bevel measuring 2 mm., should be chosen in place of one with an ordinary bevel, which measures about 4.5 mm.

When introducing fluid, such as eusol or saline solution, we have found a two-way stopcock and 10 or 20 c.cm. syringe, as described by Graham,[2] the most satisfactory instrument. The needle is inserted with the syringe only a quarter full of fluid, as it is easier to manipulate thus. Very little pressure is needed to inject the fluid, which, indeed, flows in almost of itself on account of the slightly negative pressure in the sinus. If pressure is needed one may be sure that the needle has escaped from the sinus; usually it has accidentally been pushed in too far. Each time the syringe is refilled it is well, immediately before injecting the fluid, to make sure that the needle is still in position by slightly withdrawing the plunger so as to ascertain whether there is a reflux of blood.

Autopsies on patients in whom, for diagnostic or therapeutic purposes, the sinus had been punctured at intervals of from a few hours to several weeks before death showed that in no case had any injury been done, nor in any case in which this method has been used have any untoward symptoms followed. The advantage of using the superior longitudinal sinus is evident. I have never found it necessary to give an anaesthetic. The puncture causes little disturbance, and infants even fall asleep while the fluid is running in. There is also the very material advantage that repeated injections, if such are necessary, are as easily performed as the first.

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ACUTE GENERAL HAEMORRHAGIC PERITONITIS.*

BY ARTHUR J. NYULASY, M.R.C.S.ENG.,
GYNAECOLOGIST TO THE PERTH HOSPITAL, AUSTRALIA.

ACUTE general haemorrhagic peritonitis is an uncommon condition, but three cases have come within my experience in the Perth Hospital. Two of them resulted from criminal abortion and came to the *post-mortem* table; one of them presented a striking lividity of the skin, which persisted after death; it involved the whole body, and was so pronounced in the face as to be almost startling. The third case will be described in detail.

A multipara, aged 30 years, transferred from a medical ward, had been admitted with severe diarrhoea and some pain and tenderness in the lower abdomen, the pulse being 120, respirations 32, and temperature 101.9° F. The diagnosis suggested by the physician who sent her to hospital was "ruptured ectopic gestation." In a few days the diarrhoea ceased, and the temperature, after a fluctuating course, dropped to normal, the pulse to 108, and respirations to 28. On then examining the patient I found the tongue clean and moist, the colour of the face normal, and nothing in her appearance to suggest serious illness. The abdomen conveyed the idea of general "fullness," although there was no marked intestinal distension, while the pelvic area, especially in the left iliac fossa, was very tender on pressure. Bimanually a pelvic mass was made out, and later found to be the somewhat enlarged uterus and an enlarged left Fallopian tube and adherent intestines. The mass was extremely tender on pressure, so that a satisfactory examination

* Paper read before the Western Australian Branch of the British Medical Association.

was impossible without an anaesthetic. There was dullness on percussion over the flanks, and I detected free fluid in these regions by what I call the "staccato touch." To carry out this test the flank is struck lightly and sharply in a staccato fashion with the tip of the finger; if free fluid be present, the sound given out by percussed fluid is distinctly heard. There was no localized pallor of the external genitals, a physical sign which, when present, I have found of great value in the diagnosis of atypical cases of ruptured ectopic gestation.

Operation (September 9th, 1915).—There was a yellow discharge from the cervical canal, and on curettage I could detect no evidence of a decidua, only the "slimy" sensation of chronic endometritis being conveyed through the curette. I therefore ruled out ruptured ectopic gestation, but on opening the abdomen the cavity was found to be full of bright red fluid blood, and the case appeared to be clearly one of recently ruptured ectopic gestation. On freeing and drawing up the adherent left Fallopian tube (enlarged to the size of a finger), pus was seen to be issuing from its outer end. The involved tissues were so friable that the distal portion of the tube came away quite easily in my hand up to about an inch from the uterine cornu. The right tube was also much inflamed, so that double salpingectomy was carried out. Neither in the tubes nor in the ovaries was there the slightest evidence suggestive of ectopic gestation, nor could I discover any ruptured large vessel which might account for the flooding of the peritoneal cavity with blood.

When the blood had been mopped out from the abdomen very acute peritonitis was revealed, the intestines being intensely red, roughened, and marked with patches of yellowish lymph. The abdominal walls were unusually lax, so that by lifting them up we were enabled to bring the intestines into view right up to the costal margin. As far as we could see them, the intestines were involved in exactly the same manner as under the abdominal incision. The state of the patient now demanded prompt conclusion of the operation, so that the kidney pouches had to be left without special cleansing, but there was no more obvious free blood. No drainage was used.

After-Treatment.

The patient was placed in the Fowler position and saline freely administered. A few days later the wound suppurated and opened, and a quantity of blood poured out from the abdominal cavity through the lower end of the incision. It is to be noted that the parietal peritoneum had at the operation been found thickened, stiff, and friable, so that any blood which had not been mopped out from the abdomen, or which had poured out into it afterwards, would probably have a better chance of making its way out than if the parietal peritoneum had been normal. The patient made an excellent recovery.

The absence of serious symptoms in this case was very remarkable. It may be accounted for partly by the preliminary diarrhoea and partly by the large quantity of blood which escaped from the engorged peritoneal vessels in a case fittingly described as "acute general haemorrhagic peritonitis." The conditions found at the operation suggest that acute infective inflammation of the peritoneum is not *per se* nearly so serious as appears to be commonly supposed, and that, providing the focal factor and any free toxic fluid be removed from the abdomen, and that there is no paralytic ileus, the patient may recover with comparative ease from a most extensive acute infection of the peritoneum. In other words, in such a case, if the patient die after operation, she dies of the bowel rather than of the peritoneum. This being so, if the foregoing case had deteriorated subsequent to operation, I would have carried out caecostomy, taking care at the same time to swab out the bulk of the free blood which might have poured out into the abdomen.

To illustrate recovery from extensive acute infective inflammation of the peritoneum, another case of general peritonitis in my care in the Perth Hospital some years ago may be cited. The condition resulted from criminal abortion, and was part of a general septic poisoning. After about six weeks, during which marked diarrhoea was present, the patient, apparently on the way to recovery, grew drowsy and delirious, and died in a couple of days, after vomiting, ultimately faecal, had developed. At the autopsy universal peritoneal adhesions of rather recent date were found, while one of the peritonitic bands had strangulated and cut through into a loop of bowel, with resulting extravasation of faeces. But for this unfortunate complication the patient would undoubtedly have recovered from what had obviously been a universal infective inflammation of the peritoneum.

THE late Professor J. W. White, of Philadelphia, left estate of the value of £200,000. Among the bequests in his will is one of £30,000 to the University of Pennsylvania for the foundation of a professorship of surgical research, and another of £2,000 for prizes for resident physicians and nurses and for Christmas gifts to child patients.

A CASE OF PNEUMOCOCCIC CONJUNCTIVITIS.

BY

J. CROPPER, M.D., LIEUTENANT R.A.M.C.,

EYE SPECIALIST.

THE following case is of interest from the fact that the infection was pure—that is to say, no other organism appeared on culture—and for the short and satisfactory ending on treatment.

A. B., aged 45, a medical man who had previously suffered from a troublesome nasal and pharyngeal catarrh of the left side, was seized on March 18th with a well-marked conjunctivitis in the left eye. The eye was quite well the night before, but on the following morning there was not only pain and irritation, but a well-marked bead of pus collected at the inner canthus, and re-formed every fifteen or twenty minutes.

At 2 the same afternoon I was asked to see the patient; a swab was taken, and slides of the pus showed that almost every leucocyte contained one or more diplococcus. No other organism was seen, nor did any other grow in the culture.

As fresh eusol was not at hand, the eye was thoroughly irrigated with silver nitrate solution, grs. v to ʒj (1 per cent.); the upper lid was well raised and the lower brushed with a swab of wool, the silver solution was *not* neutralized with salt.

The lids swelled up considerably, but next morning the pus had entirely ceased. Fresh eusol solution one-third the ordinary strength (that is, 0.16 per cent.) was dropped into the eye, and caused comparatively little pain. This was repeated the same afternoon, but caused considerably more inflammation and pain, the conjunctiva becoming somewhat injected and purple in colour.

At the patient's request and that of his friends I agreed—though with considerable misgiving—to discontinue the eusol and to use warm boracic douches four or five times daily. This produced excellent results, and a slide of the slightly purulent discharge next day—that is, on the fourth day—showed no organism whatever under the microscope.

I append a short report by the pathologist, Captain Rentoul, R.A.M.C., who very kindly examined the slides and made the necessary cultures.

Report by CAPTAIN RENTOUL.

On March 18th, 1916, I was asked to examine pus taken from a case of conjunctivitis. The smear on the slide showed pneumococcus in pure culture. Some were in the pus cells, but most were lying free. They all had marked capsules. The swab was used for planting out. Here, again, I obtained a pure growth of pneumococcus.

The interesting points to notice were:

1. So pure a growth of pneumococci in a direct smear.
2. So pure a growth on culture.
3. On the fourth day I again examined a smear and found no organisms.
4. The fact that severe cases of pneumococcic fever had occurred in the neighbourhood. In these cases the only symptoms were malaise, and a temperature of 102° to 104°, ending in a few days by crisis; in all these cases I grew a typical pure pneumococcus from the blood (5 c.cm.) and urine.

Having suffered for months from a similar attack of conjunctivitis I warned the patient not to be too sanguine about an early cure of his case.

I attribute our success to the early date at which suitable treatment was adopted. Had it been treated for a week with a weak boracic lotion it is extremely unlikely that either silver nitrate or eusol would have proved effectual, for as a friend remarked, the pneumococcus would have had time to burrow into the tissues, in fact, to "dig himself in."

The very thorough irrigation of the conjunctival sac was also of importance. It is too often thought that to evert the upper lid and paint it with a caustic is enough the fornix is more important than the smooth upper lid.

To my mind the essential point is to be guided not only by the "clinical picture," but also by the pathological evidence at hand. Probably the eye was infected from the nasal duct.

My grateful thanks are due to Captain Rentoul for his ready help and advice.

SIR JAMES GOODHART left unsettled estate valued at £62,217.

THE Rockefeller Foundation has decided to establish a school of hygiene in Baltimore as an integral part of Johns Hopkins University. It is intended for the training of students in preventive medicine and public health work. Professor William H. Welch has been appointed director of the school, which, it is hoped, will be opened in October next.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A PREPARED BARIUM MEAL.

NEARLY eighteen months ago a committee appointed by the Electro-Therapeutic Section of the Royal Society of Medicine considered the question of a standard opaque meal for *x*-ray examinations of the stomach and intestines. It was considered that a meal of 2 oz. of bismuth oxychloride, or 2 oz. of barium sulphate, made up to about half a pint with bread and milk, or porridge, was about the proper amount to administer. Dr. Morton added a note to the report that the opacity of bismuth oxychloride was about double that of an equal weight of the barium sulphate. For this reason it has appeared to me better in most cases to use a meal containing 4 oz. of barium sulphate in these examinations.

In the discussion on this subject I advised that a meal should be recommended of pleasanter composition than the one mentioned. The grittiness of the barium salt, the unpleasantness of the mixture, and the difficulty in hospitals of getting it well made, militated against its usefulness. I have formulated a meal which, I think, overcomes many of the difficulties in connexion with this form of examination. It is made of 75 per cent. of pure barium sulphate with 25 per cent. of a pabulum of cocoa, arrowroot, desiccated milk, etc. The whole is ground together into an impalpable powder in such a way that there is no grittiness and great evenness in distribution.

All that is required in the preparation of this meal is to rub it up with a little cold water into a paste, in a small pan over a spirit lamp, add some more water and bring it to the boil, when, on allowing it to cool for a few minutes, it can be administered. It is pleasant to take, can be always prepared in the *x*-ray room without each time troubling nurses to have the material weighed out in a dispensary, find milk, etc., and on account of the thorough admixture of the material the definition of any irregularities in the contour of the hollow viscera are more readily discovered.

It can also be used for rectal examinations through a long tube.

The meals have been prepared for me by Messrs. Allen and Hanburys, and are in boxes containing 2 oz., 4 oz., and 6 oz. of barium respectively.

JAMES METCALFE, M.D.,
Honorary Physician in Charge of the Electrical and *X*-ray Departments, Prince of Wales's Hospital, N.

A CASE OF ECLAMPSIA.

MRS. G. was attended by me at her first confinement on September 4th, 1913. Having ascertained the presence of albuminuria in the seventh month, precautions were taken, but, in spite of them, eclampsia came on. Delivery was accomplished with chloroform and forceps. On this occasion the baby died after living about two hours; the eclamptic seizure stopped about ten hours after the birth of the child.

Recently I attended her at the birth of her second child. Precautionary measures as to diet, condition of bowels, and general health were adopted on this occasion from an early date in the pregnancy. At no time was I able on this occasion to discover the presence of albumin in the urine.

On May 16th labour commenced some three or four weeks prematurely, and was again ushered in with eclampsia. I saw her about 10 a.m.; the membranes were intact, and the os uteri was dilating. Morphine was injected hypodermically. At 3 p.m. the os was more fully dilated; the posterior lip was torn, probably a relic of the first confinement; the anterior lip was somewhat rigid. To save the posterior lip and facilitate delivery I cut through the anterior lip with scissors, and then, having administered chloroform, rapidly delivered. After separation I removed the placenta with the hand in the uterus; the placenta was adherent and the placental site had an unusual hard feeling.

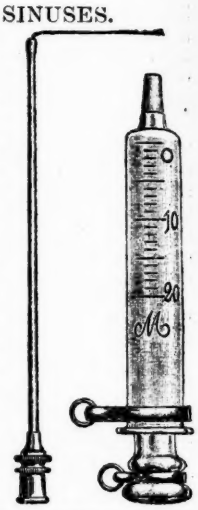
The child breathed feebly for a short time. The breath sounds began to grow feebler and the baby more livid in colour. I then once more cut the umbilical cord on the proximal side of the ligature and allowed it to bleed as freely as it could, at the same time continuing artificial respiration; the colour of the baby began to improve, and finally normal breathing was restored; the cord was then retied.

At 6 p.m. the mother was still having severe attacks of eclampsia. I then removed about 20 oz. of blood from the median basilic vein. She had no more convulsions after this, and recovered consciousness next morning. The mother and baby are now both doing well.

The main interest of the case lies, I think, in the fact that the infant's life was saved by relieving it of some of the poisoned blood due to the eclamptic state. Had the same procedure been carried out at the first confinement I think the first baby might have lived.

Bradford. EDGAR WM. SHARP, M.B., Ch.B.

DISINFECTION OF DEEP SINUSES.



WHEN I first had under my care in the Mumbles Red Cross Hospital cases with septic sinuses I experienced difficulty in getting any disinfectant into them so as to reach to the deeper parts. I then asked Messrs. Ferris and Co., Ltd., of Bristol, to make me a German silver cannula to fit a hypodermic syringe. This has been a most successful method of washing the sinuses with hydrogen peroxide or any other solution in small quantity, and appears to hasten healing very materially; liquor alantoininae has also been used in this way with success. The cannula can be bent in any way required, and the blunt end prevents it doing harm to the tissues. I find 3 in. a convenient length for the cannula.

F. DE COVERLY VEALE, M.D.
Mumbles.

Reviews.

REPORT OF THE NATIONAL BIRTH-RATE COMMISSION.

THE National Birth-rate Commission has published its report in a volume entitled *The Declining Birth-rate: Its Causes and Effects.*[1] At the time when the Commission began its investigation, in the autumn of 1913, an account was given in this JOURNAL[2] of its composition and objects, and now, after the lapse of almost three years, the public is placed in the position of judging whether the time and energy expended upon the work have been justified by the results. The war has immensely enhanced the value of infant life in the combatant nations, and even in the perusal of the evidence laid before the Commission a stronger note of urgency and intensity seems to make itself heard after the autumn of 1914. The volume consists of two parts—the report proper, and an "addition" signed by twenty-three out of the twenty-seven who append their names to the former, whilst one member of the Commission signed the addition but not the report, and Monsignor W. F. Brown adds a note of reservation.[3]

The first part of the report dealing with the statistical evidence contains no facts of startling novelty. In the United Kingdom the birth-rate has declined to the extent

[1] *The Declining Birth-rate: Its Causes and Effects.* [Being the report of, and the chief evidence taken by, the National Birth-rate Commission, instituted, with official recognition, by the National Council of Public Morals—for the Promotion of Race Regeneration—Spiritual, Moral, and Physical.] Pp. 450. London: Chapman and Hall, Ltd. 1916. (Price 10s. 6d. net.)

[2] November 1st, 1913, p. 1167.

[3] I have signed the report and the addition thereto, subject to the following reservation, which, as representing the Roman Catholic Church, I consider essential: The Church forbids the destruction of the product of conception even when the life of the mother is at stake; and also all antiphysiological methods of preventing conception.

of approximately one-third within the last thirty-five years. This is the fundamental fact about which no shadow of doubt can exist; but as to the causes, and still more the effects, of this decline, opinions diverge in all directions. To the question whether the higher education of women has an important effect in diminishing their physiological aptitude to bear children the Commission returns a negative answer, partly as the result of statistical researches carried out by Dr. Agnes Savill and Dr. Major Greenwood, junr., and by Lady Willoughby de Broke. The fertility of the non-college woman was not found to differ significantly from that of the college woman; but it is pointed out that the postponement of marriage generally attendant upon the university education of women must to some extent reduce the average number of offspring. Mrs. Scharlieb was asked whether she thought that the desire of the intellectual woman to continue intellectual studies helped to account for the smallness of the family; her reply was: "I am not sure. They generally give them (the studies) up after marriage." In a large number of the cases inquired into (college and non-college alike) some form of limitation of the size of the family was acknowledged.

The Commission looked critically at all the alleged causes of the decline in the birth-rate, including the so-called cyclical variation in the natural power to conceive or to procreate children suggested by Dr. John Brownlee and Dr. Chalmers of Glasgow. It does not, however, seem to have been impressed by the evidence for this suggestion. The conclusions reached were that conscious limitation of fertility was widely practised among the middle and upper classes, and that in addition to other means of limitation the illegal induction of abortion was frequent among the industrial population.

The report contains nothing new as to the medical aspects of the declining birth-rate. The Commission states that the witnesses advocated the establishment of antenatal and post-natal clinics where opportunity of examination of the products of conception should be provided, and arrangements for the diagnosis of the expectant mother's condition, with suitable treatment and instruction when necessary; it approved also notification of stillbirths and abortions. The report itself does not advocate these measures, but the largely signed "Addition," which has much more substance and force in it than the report itself, goes so far as to say:

> We feel that the care of the mother before childbirth is as important as the care of the child after its birth, because it must be borne in mind that even more children perish in the nine months before birth than in the first twelve months after birth.

The "Addition" attempts to answer two questions: (1) Is the decline of our national birth-rate regrettable? and (2) if it is regrettable, is it preventable; and if so, how? An affirmative answer to the first question is to be inferred from rather than recognized in what is printed; it is implicit rather than explicit. The "Addition" agrees that—

> The decline in the birth-rate at present is not eugenic but dysgenic. Restriction prevails most in the classes in which the conditions of family life are most favourable, and the largest families are found under those conditions—hereditary, environmental, or both—which are most adverse to the improvement, or even maintenance, of the quality of the population. . . . We hold, on the one hand, that a stagnation or decline of our population would be injurious to the manifold interests of the nation, and that an increase, consistent with a continually rising standard of health, wealth, education, leisure, and happiness for the whole population, would in these same interests be desirable; and, on the other, that by certain social and economic reforms, combined with moral and religious influences, it might be possible not only to increase but also to improve the population.

The answer to the second question is couched in the form of a number of pieces of good advice regarding the living wage, State-aided insurance, adjustment of the present methods of income tax computation—so as to avoid penalizing marriage—education, housing, and the value and sacredness of family life. There are, however, a few references to medical, or rather to obstetrical, matters with which the medical profession will readily agree.

The report, although giving a somewhat uncertain note on some questions and although wanting in force, will serve to instruct the public in many matters, such as the meaning of miscarriage and the risks of injury from preventives, which it is as well it should know.

Although the Commission was a private one, yet it had the assistance of two Government experts and received the evidence of others. Further, it had official recognition; consequently, although lacking in novelty, its findings enjoy a certain degree of authority.

THE AMINO ACIDS IN GROWTH AND NUTRITION.

The Physiology of the Amino Acids[4] is a book that will be read with pleasure by all who are interested in the chemistry of nutrition. These acids are among the simpler of the chemical compounds into which the proteins break up in the processes of digestion. During the last few years biochemical research has busied itself very largely with the study of these acids and their individual importance in nutrition.

Professor UNDERHILL of Yale has collected the results hitherto obtained in this field of investigation. His book presupposes in the reader a familiarity with the fundamental principles of metabolism and organic chemistry, but no more than that, and it should be well within the comprehension of medical students and practitioners. It begins with a general account of the proteins and amino acids and their relation to digestion, absorption, and bacterial activity. Further chapters deal with theories of protein metabolism, the fate of amino acids in the body, the use of these acids as foodstuffs, and their specific action in the processes of nutrition and growth. It may be said that the study of the physiological chemistry of nutrition has now advanced so far that one can give the chemical reason why a diet containing certain proteins alone is incapable of supporting life for long, or of permitting the normal growth of young experimental animals. Thus, young rats remain stunted if kept on a full diet containing protein in the form of casein only; the addition of protein-free milk to the diet adds some accessory foodstuff of unknown nature which enables normal growth to be resumed. Again, zein—a maize protein that is deficient in the two amino acids tryptophane and lysine—is inadequate when given to young mice as their only protein food; the addition of tryptophane to the diet enabled the mice to survive nearly twice as long. Hence it is argued that tryptophane is essential for the maintenance of life in these animals. Professor Underhill goes very thoroughly into the interesting questions raised by these and similar observations; his book is well arranged and clearly written, and should prove attractive to the large circle of those who are interested in either physiological chemistry, medicine, or dietetics.

PATHOLOGICAL LYING.

IT is only a few weeks since we reviewed a book by Dr. HEALEY which consisted of a large number of studies of young criminals, recounting in what their criminality consisted, and investigating with considerable success the course of events that had led them into the path of crime. The same author now offers us studies on closely similar lines of cases of lying,[5] most of them of a criminal character. The cases are investigated with the same patient care and the same freedom from bias towards the establishment of foregone conclusions that characterized the previous work, but the results are scarcely commensurate with the industry displayed. The work was worth doing once, but we doubt whether it is worth repetition. The importance of the cases recorded lies in the second member of the title—that is to say, in the false accusations brought without any apparent motive of self seeking or self interest, usually by young people, and often by children, against their parents, brothers and sisters, whom they accuse of the vilest crimes, backing their accusations with details of the most circumstantial character, and weaving around them a net from which nothing but the most searching inquiry and testing will enable them to escape. There is no specific mark by

[4] *The Physiology of the Amino Acids.* By F. P. Underhill, Ph.D., Professor of Pathological Chemistry, Yale University. New Haven: Yale University Press; London: H. Milford. 1915. (Cr. 8vo, pp. 169; 13 figures, 1 plate. 6s. net.)

[5] *Pathological Lying, Accusation and Swindling: A Study in Forensic Psychology.* By William Healey, A.B., M.D., and Mary Tenney Healey, B.L. London: W. Heinemann. 1916. (Demy 8vo, pp. 295. 10s. 6d. net.)

which such cases can be recognized, nor is there any general principle by which they can be accounted for. All that can be done is to investigate the cases with the care that was bestowed by the authors of this book on the cases that came before them. In most cases the accused were ignorant people in poor circumstances, who could not have defended themselves efficiently; and the investigations were undertaken by the authors, as officers of the court, at the request of the judge before whom the accusations were made. It is apparent, by the book under review no less than by the previous book, that the appointment of such officers is thoroughly justified, and it is doubtful whether, in some of the cases recorded, justice would have been done without their labours.

CYSTOSCOPY AND PYELOGRAPHY.

IN the second edition of his book on *Practical Cystoscopy*,[6] the first edition of which was favourably reviewed in the JOURNAL of January 13th, 1912 (p. 74), Dr. PILCHER has rewritten some chapters and added others. The chief additions concern pyelography and the employment of the high-frequency spark in the treatment of diseases of the bladder. Pyelography is the term applied to radiography of the pelvis of the kidney and ureter after previous injection of an opaque substance. The best substance for injection was found to be a 10 per cent. solution of collargol administered by gravity. Ureteral catheters impregnated with bismuth or lead were found to give a better shadow on the *x*-ray plate than metal ones. The various morbid conditions of the kidney and ureter in which pyelography gives useful evidence are well described and illustrated by numerous radiographs, but the author concludes that the method is dangerous in the hands of any one but an expert, and should never be attempted till all other means of diagnosis have failed. He also points out that the collargol solution must always be withdrawn by the use of a syringe and the pelvis washed out with sterile water after the examination has been made. The action of high-frequency currents is described as one of desiccation or "devitalization by dehydration." Dr. Pilcher considers that the method is especially indicated in cases of papillomatous growth of the bladder, in which it should be tried before resorting to operation. Other conditions in which it is said to give good results are small recurrent cancers of the bladder, haemorrhage within the bladder, chronic ulcer, and the removal of obstructions to the passage of urine, including stricture, impacted calculus in the ureter, and obstructive prostatic disease. We can recommend Dr. Pilcher's book to those engaged in this class of practice, for the technical descriptions are clear and concise and the illustrations excellent.

NOTES ON BOOKS.

THE well-known French musical critic and novelist, ROMAIN ROLLAND,[7] is one of the comparatively few authors who have succeeded in writing about the present war with calm and some degree of philosophical detachment. He is as true to France as any of his compatriots; but he sees beyond the battle-fields, and, striking a note of optimism in many of his pages, looks to see good come out of the present evil days. The volume contains sixteen letters or essays, for the most part contributed to neutral Continental journals, dealing with various aspects of the war, the values of the ideals for which the combatants are fighting, the spiritual aspects of the battle, the cry of youth and fatherland. Perhaps he goes a little further than most of us can when he urges the importance of not overdoing the humbling of Germany: "There must come a day," he writes, "when you will stretch out the hand of friendship, you and your neighbours across the Rhine . . . You will have to re-establish supportable and humane relations; so set to work in such a manner as not to make them impossible! Do not break down all the bridges, since it will ever be necessary to cross the river. Do not destroy the future." The translator may be congratulated upon the skill with which he has done these essays into English.

[6] *Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder.* By P. M. Pilcher, A.M., M.D. Second edition, thoroughly revised. Philadelphia and London: W. B. Saunders Co. 1915. (Roy. 8vo, pp. 511; 276 figures, 11 plates. 25s. net.)

[7] *Above the Battle.* By R. Rolland. Translated by C. K. Ogden, M.A. (editor of *The Cambridge Magazine*). London: G. Allen and Unwin, Ltd. 1916. (Cr. 8vo, pp. 194. 2s. 6d. net.)

Dr. SYDNEY WELHAM'S *Manual for Nurses*,[8] now in its second edition, begins with a brief account of anatomy and physiology. This is followed by sections on medicine, surgery, and the principles of nursing. It ends with a glossary of medical and surgical terms in common use. It is well arranged, clearly written, and printed in such a way as to make its contents readily assimilable. The book may be warmly recommended to the attention of all who have to nurse either medical or surgical cases.

The third edition of Dr. CHANDRA RAY'S compendium of *Medical Jurisprudence*,[9] a little larger than the second edition that appeared four years ago, presents the same characteristic excellencies and defects as its predecessor. It is well arranged, full of facts, discriminating in the advice it gives on the many important matters with which it deals. But its author has carried the art of condensation so far that it seems possible that the inexpert medical student will be confused rather than enlightened by what he reads. It is clear that previous editions of the book have been found of great service by medical students in India, and the third edition is clearly an improvement on the second.

Among the books that either Samuel Smiles or Lord Avebury might have been expected to write, but did not, the omnivorous reader would probably place a general work on the aims and achievements of pure science. This lacuna has now been filled by Professor R. A. GREGORY'S book, *Discovery*,[10] in which the general public is informed as to the methods and objects of all scientific research, and encouraged to understand and approve the mental attitude of scientific men. Science, as the author says, is not to be measured by practical service alone, however much it may contribute to material prosperity or the bestiality of German warfare. It is an intellectual outlook, a standard of truth, a stimulus to high endeavour. These and other points are proved by the discoveries and examples of countless scientific investigators of all countries and all ages, aptly quoted by Professor Gregory to illustrate his theses and arguments. The book is full of human interest and may be read with enjoyment and profit by laymen and scientists alike; it contains a great deal of sound history, and the author shows no little literary skill in his avoidance of the tedious moralizing to which writers on the British apathy to science are so lamentably prone.

New York University has recently published a volume[11] of work done in its Laboratory of Surgical Research during the last two years. It contains twenty-seven papers, many of them by well-known surgeons and teachers. They deal with various subjects, the chief being intestinal surgery, Abderhalden's protective ferments, the surgery of the ureters, shock, and methods of anaesthetization. All the papers have appeared in print before and give evidence of great ingenuity and industry in their authors. New York University is to be congratulated upon the surgical activity manifested by this volume.

[8] *A Manual for Nurses.* By S. Welham, Resident Medical Officer, Charing Cross Hospital. Second Edition. London: Mills and Boon, Ltd. 1916. (Post 8vo, pp. 239; 3 charts. 1s. 6d. net.)

[9] *Outlines of Medical Jurisprudence, with Special Treatment of Toxicology and Insanity.* By R. C. Ray, L.M.S. Third edition. Calcutta: Published by the Proprietor of the Hare Pharmacy. 1916. (Cr. 8vo, pp. 503. Rs.4.)

[10] *Discovery, or the Spirit and Service of Science.* By R. A. Gregory. London: Macmillan and Co. 1916. (Cr. 8vo, pp. 348; 8 illustrations. 5s. net.)

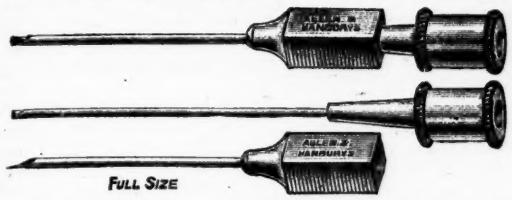
[11] *Studies in Surgical Pathological Physiology from the Laboratory of Surgical Research, New York University.* 1915. Vol. I. Edited by J. W. Draper. New York: The University. 1915. (Med. 8vo; illustrated.)

MEDICAL AND SURGICAL APPLIANCES.

Intravenous Injections of Organic Arsenic Compounds.

MR. W. F. CHOLMELEY, F.R.C.S. (Wolverhampton), writes that for some months he has been meeting with patients who, immediately after an intravenous injection of a concentrated solution of galyl or kindred drug, have had bad arms. Some have had a general inflammation extending from the needle puncture, some small abscesses, and two sloughs, one 2½ in. in diameter. The history in each case had been the same—namely, that pain started during the injection. One case, a small slough, occurred after an injection by himself, and was due to a slight leakage of the drug outside the vein during the injection, caused by a movement of the needle. He is certain that all the other cases were caused in a somewhat similar manner,

the leakage being due to a double puncture of the vein by the needle, made either when introducing it or as the result of movement by the patient or of the syringe. To prevent this double puncture, Messrs. Allen and Hanburys (London) have made, at his suggestion, a very neat needle and cannula, after the pattern of the needle and cannula of Mr. Barker's spinal analgesia syringe, but finer and much shorter. The cannula should be used to draw up the solution into the syringe, and then, after plunging the needle into the vein, the cannula, attached to the syringe,



is pushed along the needle as far as it will go, and the injection given. As the cannula projects beyond the point of the needle, the whole can be moved about in the vein without any fear of perforating it; in fact, it is, he says, a good plan, before injecting, to push the needle and cannula further along the vein, to make sure that it is free and to get beyond any second puncture that may have been made when introducing the needle.

An Instrument for Intravenous Injections.

Dr. HAROLD SPENCE (Chief Assistant Skin Department, St. Bartholomew's Hospital) writes: I have devised for intravenous injections a combined needleholder with two-way tap, which is illustrated in the accompanying drawing.* The instrument can be manipulated with one hand, and the operator has control over the flow of the fluid in both containers. The saline solution or the antisyphilitic fluid can be instantly turned on or off at will. The tap is closed when the wings are at right angles, as in the

illustration; a turn to the left opens the left tube and a turn to the right the right tube; the wings also serve to give the operator a firm grip on the instrument when inserting the needle. It will be seen that this simple contrivance does away with the taps or clips which are usually fixed to the tubing and which require the services of an assistant. The nozzle of the needleholder has a slight crank bend, which brings the needle into the plane of the under surface and in line with the vein.

MEDICINAL AND DIETETIC PREPARATIONS.

Bynogen.

WE have received from Messrs. Allen and Hanburys, Ltd., a sample of "Bynogen," which this firm is bringing forward. It is stated by the manufacturers to be a combination of pure milk protein with maltose and the glycerophosphates of sodium, calcium, and magnesium. The sample supplied was found, on analysis, to contain 9.15 per cent. of nitrogen, which is equivalent to 57.6 per cent. of protein. Qualitative tests also showed the presence of appreciable amounts of glycerophosphate. The flavour and odour of the sample were good, and it readily mixed with hot or cold liquids when treated according to the directions; the preparation therefore appears to be an excellent one, and certainly possesses a high nutritive value.

Lysol "L" Brand.

We have recently received for comment a sample of the Lysol "L" Brand disinfectant, manufactured by Messrs. Lysol, Ltd., Stratford, E. (selling agents, Messrs. Chas. Zimmermann and Co., Ltd., 9 and 10, St. Mary-at-Hill, E.C.). It is stated to be manufactured in Great Britain. The sample was a clear liquid, resembling in general physical characters the German-made Lysol obtainable before the war. It contained, according to our analysis:

Combined potassium, calculated as potassium hydroxide	4.78 per cent.
Cresols	51.0 ,,

No free alkali was present.

* The Holborn Surgical Instrument Co., Ltd., are the makers of the instrument.

The preparation, when mixed with moderate quantities of distilled water, formed a bright solution, which frothed well on shaking. It was also perfectly miscible with all proportions of alcohol, chloroform, or glycerol, giving solutions which were quite free from turbidity.

Mixed Vaccines.

Messrs. Burroughs, Wellcome and Co. prepare and sell mixed vaccines containing typhoid, paratyphoid A, and paratyphoid B bacilli. That designed for the first inoculation contains in 1 c.cm., which is the dose, 500 million typhoid, 375 million paratyphoid A, and 375 million paratyphoid B bacilli. The other, intended for the second inoculation a week later, is twice this strength.

PROTECTION OF INFANT LIFE IN FRANCE BEFORE AND AFTER BIRTH.

CONFRONTED by the peril to which the French nation is exposed by reason, on the one hand, of a steadily decreasing birth-rate and, on the other, of an unnecessarily high rate of mortality during the first few years of life, a movement was set on foot some years ago by a number of patriotic scientific men, foremost among them being Professor A. Pinard, the famous obstetrician, the "father of puericulture," for the protection of the unborn infant by securing rest, suitable nourishment and medical advice for pregnant women belonging to the wage-earning classes. Their efforts found expression in an inadequate but still useful law that came into force in June, 1913, the *Loi sur le repos des femmes en couche.*

It is enacted thereby that women obviously pregnant (en état de grossesse apparente) are entitled to abandon work without being obliged to give the usual notice and without thereby incurring the risk of dismissal and formally forbidding the employment of women during the first four weeks following their confinement. The provision was stultified by the addition of words providing that the penalties accruing under this clause shall only be applicable when the employer has had knowledge of the fact of delivery having taken place.

Article 3 provides that every woman of French nationality, without means, who under ordinary circumstances earns her living as workwoman, employee or domestic servant, is entitled for four weeks preceding and another four weeks immediately following delivery, to a daily "allowance," to enable her to "rest from her labours," which, however, must not be in addition to any other official maternity assistance. The postulant must produce a medical certificate to the effect that she is "unable to continue working without danger to herself or to her offspring" in order to obtain the allocation before labour. Under no circumstances does the allocation before and after labour continue for a period exceeding eight weeks in all. The anteparturition allowance is stopped as soon as the four weeks come to an end, whether or not the woman has become a mother. It is presumed that the expectant mother's needs during the interval (if any) will be met by private charity or by the Bureau de Bienfaisance. The fact of the child being still-born does not invalidate the claim to an allowance, but a miscarriage does. Lastly, the allocation, which is rendered inalienable and unseizable, may be given in kind either in whole or in part.

A woman is advised to make her application for an allowance in writing as soon as she is certain of the existence of pregnancy. She will be required to furnish evidence that her circumstances are such as to justify her admission (amount of rates paid by her husband—if husband there be—a certificate from her employer showing that she has been paid wages, etc.). The demand is entered on a list kept at the mairie, and inquiries are set on foot as to the applicant's circumstances. This of course takes time, consequently, if a woman puts off her application to the last minute it may be difficult to accede to her request in time to be of assistance.

When the applicant has her "domicile of assistance" in the commune in which she resides, the demand is adjudicated upon by the municipal authority. When she

belongs to some other commune the demand is submitted to the prefect, who decides for or against the application.

When the woman, as is usually the case, delays making application until delivery has actually taken place, and when she applies for an anteparturition allowance on the strength of a medical certificate, the case is dealt with "d'urgence." It is the duty of the mayor to inquire into the case as promptly as possible, and he may then decide on his own responsibility as to the admissibility of the claim, provided the woman is domiciled in his commune, otherwise the case is referred to the prefect.

Any "maternal society" or public charitable association "authorized for this purpose by the decree of the Ministers of Interior and Finances, after receipt of approbation of the special section of the Superior Council of public assistance," *may* be permitted by the Municipal Council to assist in applying the law in communes where these organizations have branches, but it is expressly stipulated that the society or association shall be absolutely free from "toute préoccupation d'ordre confessionnelle ou politique" (denominational or political bias)—indeed, it must be "notoriously free" from any such taint. Arrangements are to be made for ladies to visit the women assisted to see that they really do rest and that they observe the laws of hygiene for the offspring. As a rule, it is that hard-worked person, the village schoolmistress, who does this. She hands the woman a leaflet of instructions drawn up by the Academy of Medicine, if necessary explaining its purport.

The *idée mère*, of which this law is but a feeble, inadequate reflection, is, in the language of Professor Pinard, "throughout the duration of the war . . . to provide every necessitous woman who is either pregnant or has a child under three years of age, with the social, medical, and legal protection to which, in a civilized society, she is entitled." Hitherto child protection has not been extended to the infant as yet unborn, but Professor Pinard urges that every pregnant woman has a right to protection from the moment that pregnancy is certain. This is what he calls "intrauterine puericulture."

The magnitude of the task will be seen when we state that during this first year of war no fewer than 2,197 pregnant women were received and provided for at the Asile Michelet; 352 pregnant women with children at the Refuge Pauline Roland, and 508 pregnant women at the Asile George Sand; 882 were received in the refuges of the Oeuvre d'Allaitement Maternel; so that, in all, 2,527 pregnant women were harboured in the refuges of the Oeuvre Nouvelle des Crèches Parisiennes.

During the first year of war some 37,085 births were registered in Paris, 27,431 of them in the various lying-in hospitals of the Public Assistance. In addition, 7,253 parturient women received public medical assistance at their homes, so that altogether some 34,000 women and upwards of 34,000 children received aid either in the hospitals or refuges, or were attended and helped at their homes.

It is to be remarked that the law only applies to the wage-earning classes of pregnant women, though the local authorities *may* assist women of the peasant agricultural class if thought proper. That the local authorities are not favourably disposed to any extension of the scope of the scheme is shown in a letter addressed to a person of the latter category in reply to a demand for assistance (her husband being at the front, and she herself being unable, on account of advanced pregnancy, to do the hard work of the small farm); it stated that "in consequence of the limited amount of funds affected to this service, which is optional, the departmental commission has decided to accord aid under this head only to large families comprising not less than five children under 13 years of age."

The amount of the allowance is settled by the municipal council in each commune, subject to the approval of the general council (county council) and the prefect. It cannot in any case be less than 5d. nor above 1s. 3d. a day, the rate recommended being 1s. 3d. for urban districts and 10d. elsewhere. The municipal council may, however, accord a higher allowance, but should it do so the excess is wholly chargeable to the particular commune. The allowance is increased by 5d. a day when the mother brings up the child at the breast for a period of four weeks following the confinement, payable at the expiration of that period.

The funds for the assistance of pregnant women are derived (1) from donations and foundations having for object the assistance of expectant mothers; (2) from the participation of the Bureau de Bienfaisance (local charity administration); and (3), in the event of lack of sufficient funds, by a subvention from the Department (county), provided always that the proportion payable by the commune shall in no case be inferior to 10 per cent. of the balance of expenditure not covered by (1) and (2).

The total amount that can be received by a parturient woman, supposing that she avails herself of the four weeks' rest before and another four weeks after the birth of the child *plus* four weeks' extra allowance for breast feeding, is 98 francs, roughly £4.

According to the report of the inspector for the department of Savoie, only 69 out of 330 communes have so far seen fit to make allowances to pregnant women, though, we are informed, there is a marked tendency to an increase under this head. It is to be remembered that Savoie is an almost purely agricultural region, where the peasants work their own land. It follows that the proportion of wage-earning population is comparatively low. The wives of peasant farmers are excluded, a limitation which would no doubt have been removed had it not been for the outbreak of war. Some idea of the extent to which the law has found application in the provinces can be formed from the following figures for the department of Savoie.

Number of Wage-earning Parturients receiving Allocations.

	Rest Allowances.	Breast-feeding Allowance.
Chambéry (23,000 inhabitants)	79	72
Alberville (6,300 inhabitants)	24	15
Moutiers (2,700 inhabitants)	8	6
St. Jean de Maurienne (3,100 inhabitants)	32	25

The expenses for the year 1914 were as follows:

	Fr.
1. Allowances for rest and breast-feeding accorded to women domiciled in the commune	9,923
2. Administration expenses and departmental control	3,243
	13,166

Of this sum the proportions contributed by the various authorities are as follows:

	Fr.
Paid by the communes	2,905
Paid by the State	8,169
Paid by the department (county)	2,092
	13,166

HELP FOR MEDICAL OFFICERS OF THE NAVY AND ARMY, TERRITORIAL, SPECIAL RESERVE, AND TEMPORARY.

AT the present moment, when the medical profession is considering what, if anything, it should do to help those of its members who have suffered in the war, it may be well to state briefly the provision made directly or indirectly by the State. The official documents have been noted from time to time in our columns, but a brief consecutive account will probably prove convenient.

The resolution of the Annual Representative Meeting last year was in very general terms:

> That the Representative Meeting requests the Council to consider the advisability of raising a medical fund for the purpose of helping those practitioners who have been serving their country as medical officers of the army and navy, and also of helping the dependants of such practitioners, if necessary, and gives the Council power to act.

This may be interpreted as a recognition of the fact that help may be needed in two different sets of circumstances:

> I. For men whose earning capacity has been wholly destroyed or seriously diminished by wounds or disease, and for the widows and orphans of those who lose their lives.
>
> II. For men who, through leaving their practices to serve as medical officers in the navy and army, have become embarrassed financially.

The first is a permanent, the second a temporary, condition. The provision made by the State is designed to meet the first; it does nothing, in the case of officers, to meet the second.

I. OFFICERS DISABLED OR KILLED IN THE WAR.

GRATUITIES, PENSIONS, AND COMPASSIONATE ALLOWANCES.

At an early stage of the war it was announced in the House of Commons that medical officers of the Territorial Force and Special Reserve and those holding temporary commissions, their widows and orphans, would be entitled to gratuities and pensions on the scale and conditions then applicable to regular officers.

A Select Committee was subsequently appointed to report on pensions and grants. Its third report, issued on September 2nd, 1915, dealt with officers. It recommended important modifications in the method of classification of disabilities, and estimation of pensions and gratuities, but it stated that its proposals related "primarily to officers holding combatant commissions," and that "the cases of other officers should be reviewed departmentally where necessary on similar lines."

Such revision in the case of officers R.A.M.C. does not yet appear to have been made, but the Council in its report stated that the Director-General A.M.S. had promised to give the matter his personal attention, and that it was understood that the claims of the medical officers to be treated in exactly the same way as combatant officers would most probably be conceded.

Widows, Orphans, and Dependants.

The Committee recommended a new classification in cases arising out of the present war in lieu of that contained in the Royal Pay Warrant (Army). The rates in the Royal Pay Warrant are as follows:

PENSIONS AND GRATUITIES TO FAMILIES OF OFFICERS.

In Action.—Widows' pensions, children's compassionate allowances, and gratuities to widows and children in the case of officers killed in action or dying of wounds received in action:

Rank.	Widow: Pension.	Children—Yearly Compassionate Allowance for each: Boys to 18 years, Girls to 21 years.	Gratuity in Addition to Pension.	
			Widow.	Each Child.
	£	£	£	£ s. d.
Lieut.-Colonel...	180	24	450	150 0 0
Major	140	21	300	100 0 0
Captain	100	18	250	83 6 8
Lieutenant ...	80	15	140	46 13 4

Not in Action.—Widows' pensions and children's compassionate allowances in the case of officers dying from disease or injuries sustained on duty not in action within seven years after removal from duty from the disease or injury (no gratuity):

	Widow: Pension.	Children: Compassionate Allowance—Boys to 18 years; Girls to 21 years.
	£	£ s. d.
Lieutenant-Colonel ...	135	20 0 0
Major	105	17 10 0
Captain	75	15 0 0
Lieutenant	60	12 10 0

Under these (old) regulations the compassionate allowance might be doubled in the case of motherless children, and pensions might in certain specified circumstances be granted to mothers and sisters. The conditions were set out in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of February 13th, 1915, p. 319, and are to be read in full in the Royal Pay Warrant (price 6d.), Section XI.

The Select Committee recommended the following classification:

Class I. Killed in action or died from wounds received in action or from other violent death due directly and wholly to war service.

Class II. Died from disease due to active operations in the field or otherwise directly attributable to military service, or from injuries received in and by service so far as not covered by Class I.

Class III. Died from disease, injury, or accident, not coming under Class I or II.

The Committee recommended that the rates for the widows of lieutenants in the army should be raised to the existing rates for captains in the army—namely, Class I, £100 a year; Class II, £75 a year; Class III, £50 a year; and that the additional gratuity in Class I should continue to be paid at the existing rates. The Committee pointed out that in Class III—that is, where the officer has died from accident or disease due to natural causes in no way consequent on naval or military services—an officer's widow would not be entitled to pension under existing regulations unless the officer had given a certain period of service (in the army ten years). It recommended that this restriction should, for the period of the war, so far be waived that where the deceased officer has not given the necessary qualifying service for a pension his widow, if otherwise qualified under existing regulations, should be given a *gratuity*, paid either in a lump sum or in instalments at the discretion of the Admiralty or Army Council. The amount of the gratuity should be not less than one and not more than three years' pay, at the discretion of the Admiralty or Army Council.

It recommended also that the rates for children for all commissioned ranks up to and including colonels in the army, should be fixed at the rates now given to a colonel in the army—namely, Class I £24, Class II £20, Class III £16—and continued:

5. We further recommend that in cases of pecuniary need the Admiralty and the Army Council should have discretion to give an education allowance of £35 per annum for a boy and £25 per annum for a girl between the ages of 13 and 18.

These allowances may be extended until the age of 21 on the recommendation of a competent education authority where the education of the children is being continued at secondary schools, technical schools, or universities.

6. We consider that the existing regulations for the grant of pensions to officers' relatives are too rigid, and should be revised with reference to the principles on which pensions, etc., are granted to the dependants of men serving in the ranks.

Temporary Officers and Officers of the Special Reserve and Territorial Force.

The Select Committee pointed out that officers who do not belong to the Regular Forces will not in most cases have sufficient length of service to qualify for service additions to pensions. It recommended, therefore, that "if invalided for medical unfitness caused by military service they should be graded under four heads according to the impairment of their earning capacity, and awarded pensions at the minimum rates recommended for regular officers as follows":

	Earning Capacity			
	Totally Destroyed.	Seriously Affected.	Impaired.	Slightly Impaired.
	£	£	£	
Lieutenant-Colonel	225	201*	150	In all cases a gratuity not exceeding £500
Major	200	173*	125	
Captain	150	128*	100	
Subaltern	150	100	75	

* The rates quoted are half-pay rates for infantry officers. For officers of other branches of the army and of the navy the appropriate half-pay rates should be substituted.

The Committee also made the following recommendations:

8. We further recommend that, having regard to the circumstances of the present war, the minimum wounds gratuity and pension for wounds and pension for severe injuries received otherwise than in action should be at the rate given under present regulations to army captains—for example, for each limb or eye lost by wounds, gratuity of £250 for the first year, with a pension of £100 in following years.

Wounds, gratuity and pension, and injuries pension will, as at present, be additional to any other pension to which an officer may be entitled under existing regulations, but they should not be given in addition to the new disability rates recommended in this report. If an officer is eligible for either the new disability rate or a wounds pension, etc., with other pension on the old scales, the higher of the two pensions should be given. No officer, however, who, as the results of injuries

in action, loses the sight of both eyes should receive less than £300 a year in all.

9. The children of disabled officers should be eligible for education allowances, as recommended in paragraph 5.

11. The new scales and conditions which we recommend should throughout be applicable to cases arising out of the present war only. Cases which have so arisen prior to this report should be reassessed as from March 1st last. Officers already in the service should retain their rights under existing regulations if more advantageous to them than the rates which we propose.

Naval and Military War Pensions Act, 1915.

The purpose of this Act, which received the Royal assent on November 10th, 1915, is "to make better provision as to pensions, grants, and allowances made in respect of the present war to officers and men in the naval and military service of His Majesty and their dependants, and the cases of officers and men disabled in consequence of the present war."

The Statutory Committee.

The Act constitutes (Section 1) a Statutory Committee of the Royal Patriotic Fund Corporation. The Corporation is administered under the Patriotic Fund Reorganization Act, 1903; it has considerable funds, and is authorized by the new Act to solicit and receive contributions from the public and donations of property.

The Statutory Committee, under the Naval and Military War Pensions Act, consists of twenty-seven persons, nominated partly by the Crown (12), partly by the Royal Patriotic Fund Corporation (6), partly by the Soldiers' and Sailors' Families Association (2), and partly by Government departments, including the Admiralty and Army Council. The Chairman is the Prince of Wales and the Vice-Chairman (salaried) Mr. Cyril Jackson.

The functions of the Statutory Committee are enumerated in Section 3. For the present purpose the most important are:

Out of funds at its disposal, to supplement, in accordance with regulations to be made by it, pensions and grants and separation allowances payable out of public funds, and to make grants in cases in which no pensions are payable out of public funds.

To determine questions in relation to pensions or grants referred to it by the Admiralty or Army Council.

To administer any funds placed at its disposal by the Royal Patriotic Fund Corporation, or by local committees, or by any society or other organization having funds applicable to the making of grants of the nature of those which it is authorized to make, or otherwise.

To make provision for the care of disabled officers and men after they have left the service, including provision for their health, training, and employment; for this purpose the Statutory Committee must appoint a special subcommittee.

To make grants in special cases to enable widows, children, and other dependants of deceased officers (and men) to obtain training and employment.

Local Committees.

Local Committees must be set up (Section 2) to assist the Statutory Committee in accordance with schemes prepared by the local authorities (county and county borough councils and councils of towns of 50,000 inhabitants, or in special cases). The chief functions of Local Committees are (Section 4):

To inquire into any case and to collect and supply information as required by the Statutory Committee.

To distribute supplementary grants if required by the Statutory Committee so to do.

To contribute out of funds at their disposal to the funds administered by the Statutory Committee, to increase pensions and grants, and to make grants where no pensions or grants are otherwise payable.

To make provision, subject to the approval of the Statutory Committee, for the care of disabled officers and men after they have left the service, including provision for their health, training, and employment.

To solicit public contributions.

It will be seen that the powers of the Statutory Committee are very wide, and in particular that the Admiralty and Army Council may refer to it any question in relation to pensions or grants.

It seems clear that the Act contemplates the reference to the Statutory Committee of questions arising in relation to pensions and grants paid out of public funds—that is, by the Admiralty or War Office.

II. CIVIL FINANCIAL OBLIGATIONS.

There is no State provision for the benefit of officers financially embarrassed owing to the cessation of income from their civil calling, and the necessity of meeting the running expenses of their home establishments and other permanent financial obligations.

State provision to assist a non-commissioned officer or man has recently been instituted, the amount to be determined according to the nature and extent of his financial obligations. A special committee consisting of Mr. Hayes Fisher, the Solicitor-General, the Lord Advocate, Sir Paul Hervey, and Mr. A. V. Symonds, has been appointed, and Mr. Long stated on April 25th that it had obtained the concurrence of the Treasury to the following general principles:

1. That the scheme of assistance will apply to all men who have joined the Forces since August 4th, 1914, or who may join hereafter, and to single as well as to married men.
2. The items in respect of which assistance will be granted include:

> Rent (including ground rent and rent of business premises).
> Mortgage interest.
> Payments in instalments in virtue of contracts, such as purchase of premises, business, or furniture.
> Taxes.
> Rates.
> Insurance premiums and school fees.

Relief will not be given for the purpose of enabling any person to discharge such liabilities as ordinary debts to tradesmen.

3. It is not contemplated that the assistance to be granted in any individual case should exceed £104 per annum.

The scheme did not apply to officers, but an answer given in the House of Commons by the Parliamentary Secretary to the Local Government Board (Mr. Hayes Fisher) on July 4th showed that the Government was prepared to extend the scheme. Mr. Ashley (member for Blackpool) had asked whether in view of the fact that the pay in cash to second lieutenants of the line serving at home varied from 7s. 6d. to 10s. a day, and the pay of first lieutenants was 1s. a day more, the same privileges could be extended to subalterns of the line serving at home as to grants for meeting rent, rates, taxes, and other liabilities as had been granted to those serving in the ranks. Mr. Hayes Fisher said that the Chancellor of the Exchequer was prepared to agree to the extension of the scheme to lieutenants and second lieutenants who joined the forces on or after August 4th, 1914, whether they joined as officers or in the ranks, and added that he believed the concession would apply to the navy also. Before attempting to estimate the effect, if any, which this concession will have on the position of medical officers publication of a more detailed and considered statement must be awaited. Mr. Ashley's question referred to officers of the line only and to those serving at home; Mr. Hayes Fisher's answer did not contain these qualifications. In any case, the condition that the officer must have joined on or after August 4th, 1914, would appear to exclude medical officers of the Special Reserve and all medical officers of the Territorial Force except the small minority who have joined since the beginning of the war. It would exclude also captains R.A.M.C., and as lieutenants R.A.M.C. are promoted captains after one year's service the exclusion would have a very wide effect.

Finally it is to be noted that an officer is not entitled to any separation allowance for his wife or children.

On June 2nd the degree of doctor of medicine was conferred on twelve students of the New York Medical College and Hospital for Women. At the annual dinner of the alumnae it was announced that £14,400 had been collected towards the cost of new buildings for the institution. It is hoped that £40,000 will be obtained.

Sir George Augustus Pilkington, M.R.C.S., who for some time represented the Southport Division in Parliament, left estate valued at £269,840, the net personalty being £230,148. Among the charitable legacies are bequests of £1,000 each to the Southport Infirmary, the Southport and Birkdale District Nursing Association, and the Southport Provident Society.

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SATURDAY, JULY 8TH, 1916.

THE CARE OF THE PREGNANT WOMAN.

"THE solution of the matter, I feel sure, is not in statistics and notification, but in education and research." This crisp sentence, in which Dr. Donald sums up the final conclusion of his paper on the care of the pregnant woman, deserves to become a medical apophthegm. It has, indeed, an application far beyond the particular subject he is discussing, for medicine has not infrequently imperilled its influence with the public by forgetting the principle it embodies, and in consequence has sometimes promised more than in the result has proved possible of performance.

Dr. Donald attacks his problem with the cool, almost disconcerting, precision of the expert, and arrives at the conclusion we have quoted. A study of his essay rather gives the impression that when he set to work to order the facts in his own mind he did not quite know where they would lead him, and the conclusion gathers force thereby. The reader is made to feel that no other was possible.

Let us invert the order and put research, that is knowledge, first—knowledge already won, which no one is more competent than Dr. Donald to expound, and knowledge that is yet to be won by research—that is, by observation and experiment, but chiefly here by observation. Research is difficult and long. It cannot be carried on without workers and money. The main duty of the State and of the public is to find the money and appliances, and not to ask for the fruits of research until they are ripe—not to embark on costly administrative experiments until knowledge has advanced so far that the result of the experiment can be foreseen with a reasonable degree of confidence.

Art, too, is difficult and long. It can only be perfected by education—education, and yet again education. Who is to be educated? Dr. Donald answers the mother, and we would add the father, the midwife, the medical student, and the medical practitioner.

With regard to medical education, Dr. Donald speaks with candour and with the authority of one of long experience as surgeon to one of the chief maternity hospitals in the kingdom, as gynaecological surgeon to a great hospital, and as professor of obstetrics in an important medical school. Medical students, he says, should have a more thorough training in practical midwifery, and he evidently considers that the Manchester regulation requiring them to live in a maternity hospital for a period of four weeks should be imitated elsewhere. This opinion as to the education of students will, we believe, meet with general approval, and probably few will be found openly to quarrel with the recommendation that more facilities should be given for medical practitioners to receive post-graduate instruction. True, we are here on rather more delicate ground, for there will be many ready to reply that nothing is so valuable to a man as his own experience. The wise man, however, is he who knows how to profit also by the experience of others, and, as in all arts, so in obstetrics, more may be learnt by watching the expert for a few weeks and studying the whole organization of which he forms a part than by the perusal of a shelf-full of books. Many of us, when we have passed the last examination and received our diploma, have been disposed rather to resent the idea of going to school again, believing that our education can be continued by a system of learning by experience, but it is not possible with the man who embarks in general practice. It is not possible even with the specialist, however narrow his field; and, in fact, no one makes more elaborate arrangements than the specialist to know what other workers in the same field are doing. Sir James Paget, in an address delivered some thirty years ago at the Army Medical School at Netley, gave himself as an instance "of the general fact that many of us have to spend our lives in competitive examinations, and that for most of us it is well that it should be so." He had passed, he said, all his examinations and gained his full promotion, and yet his examinations were not all over. "My examiners are changed; the far greater part of them are my juniors, some of them my very distant juniors, in whom I have to envy not their experience, but their familiarity with forms of knowledge which I cannot now attain. It is as if half the subjects of examination had been changed, and I am more than ever conscious of the danger of being plucked."

Man, one of the least prolific and physically one of the most defenceless of animals, has only moved upwards by the use of his brain, for the acquisition of knowledge by which to master the forces of Nature warring against him. It was a great step upwards when he learnt to chip flints, and another when he made fire and learnt how it might be used to forge metal implements for the chase and for agriculture. The history of man is this—the study of nature by observation and experiment, and the spread of the knowledge so gained, which is education; so viewed, ethics is seen to be the daughter of knowledge.

One of the assertions which we have heard used as an argument to induce the medical profession to advocate, or at least to acquiesce in the notification of pregnancy is that "it is bound to come, and it will be a mistake for the profession to oppose a popular demand." This is parallel to the German assertion, "German *Kultur* is the best thing for everybody, therefore it is a mistake to oppose its imposition on all nations." We can all see the fallacies in the German claim, but the other is not less fallacious.

If a public demand for the notification of pregnancy gathers sufficient force to induce the Legislature to make it compulsory it will be because the public has been induced to believe that great benefits will result from it. The responsibility of the medical profession is therefore very great, and it must see to it that promises are not made in its name which in the nature of things cannot be performed.

Dr. Donald's paper is in essence, if not in form, an application of the Socratic method to the problem. By it he shows what part of the total loss of life and health to mother and child can on the most sanguine assumption be prevented by any methods notification would make it possible to apply.

Professor Pinard, to whom we are indebted for much of the information in the article on protection of infant life in France before and after birth (p. 45), writes in a private letter: "You must not suppose that the suppression of abortion will increase the

number of births. There is only one thing to be done. Take steps to ensure that the birth of another child shall not impoverish the family. Only through the family can the nation be built up again from the point of view of population, therefore let there be a bonus for every child." The second clause is a truism; the first is in a large measure true if we extend rather widely the meaning we attach to impoverish. But the conclusion does not follow from the premisses. How has it worked out in practice so far in France? The bonus at its maximum is £4. It is not too much to say that the whole structure of human society is conditioned by the fact that man is dependent on his parents for at least the first fourteen or fifteen years and can barely earn his keep for several more. A bonus of £4 is better than nothing because it will help the mother to take care of herself for a short time before and after the birth, but it does not meet the case Professor Pinard presents. We cannot pretend to say what the real remedy is. It is the greatest problem of the immediate future. Some, whose opinion deserves respect, would find the solution in a great increase in wages. To this there seem to be two main objections. The first is that no one country can raise wages without defeating its object; it would drive away trade and so inevitably and quickly lead to lack of employment and consequent diminution of population. The other, which would be immediately operative in this country, is that no increase of wages could improve the conditions of life for the manual and clerical workers unless the housing question were tackled in a more thorough and statesmanlike way than hitherto. Whenever any of the matters on which medicine touches sociology and politics is closely and impartially considered we come down on to the housing problem. If, as is the case now in so many big towns, any wages that can conceivably be paid in the world competition for markets, which is going to be keener than ever, will not buy decent healthy homes, then more money by way of wages or bonus will not be a remedy. Medical officers of health would be very much more useful to the community if they would put their back into lifting this weight, and would have the courage to tell the public bodies to which they are advisers the disagreeable truth in place of suggesting small measures which can at best be no more than palliatives and may even do harm, as doses of opium may take away the only chance from a man with acute abdominal obstruction.

CHROMATIC ENCEPHALOPSY.

THE late Sir Francis Galton, in that cornucopia of recondite information, his *Enquiries into Human Faculty*, gives a detailed account of several remarkable cases in which numerals, letters or words were invariably thought of as possessing distinctive colours. In some cases the association was exclusively with the optical, in others with the auditory impression. Where letter sounds were concerned, colours were evoked by the vowels with special frequency, but it was rare to find two people, even members of the same family, agreeing as to the colour associated with a particular sound. According to Galton, coloured hearing and allied phenomena were often hereditary. Mr. Havelock Ellis states that they are much commoner among women than men. Of 203 women students at Wellesley College, U.S.A., no fewer than 32, or 15.7 per cent., were colour-hearers.[1]

[1] *Man and Woman*. By Havelock Ellis. Revised edition, p. 159.

In a paper contributed to the Académie de Médecine on May 23rd,[2] Professor R. Blanchard gave particulars of two cases of colour association observed by himself, and discussed the group of allied psychic phenomena, for which he proposed the designation of "chromatic encephalopsy." In one of his cases the subject, Mme. X., associated a scale of colours with the numbers 0 to 10, and in the other, Mlle. G., with the days of the week. In both it is a question of something more than coloured hearing, since the photism was evoked not merely by hearing the figure or day of the week spoken of, but also by reading or even by thinking of it.

It may be mentioned that cases have been recorded in which even tastes have been accompanied by distinctive colour images ("photisms," or "psychochromes"). Sometimes, though rarely, the colour image is exteriorized and endowed with a definite form, but usually it is indefinite and confined to the internal field of vision. For these exteriorizations Galton proposed the name of "psychograms." Chromatic encephalopsy seems to be unknown among deaf-mutes and the congenitally blind; on the other hand, it was found by Philippe in the high proportion of 20 per cent. among cases of acquired blindness. The philosopher Locke tells of a blind man who announced his conviction that the colour scarlet must be "like the sound of a trumpet." With the brothers Nussbauer the sound of the voice or of music evoked colour impressions, and conversely certain colours evoked internal impressions of musical notes. Such reversibility is, according to M. Blanchard, very exceptional, but in the case of Mlle. G., who is an artist, the sight of certain colours when spread on her palette, but in no other circumstances, evoked the name of the associated day of the week. The phenomenon, of whatever form or degree, generally appears at a very early age, and persists almost unchanged, but in one or two cases a possible cause for the establishment of the association has been vaguely remembered, lending support to M. Blanchard's belief in the part which suggestion or auto-suggestion may play. There seems no reason to adopt the hypothesis of an abnormal anastomosis uniting the auditory and visual centres; the reflection of a sensory impulse from one part of the brain to another is amply provided for by the association fibres.

M. Blanchard also calls attention to the prevalence of such expressions as "seeing red," "a blue story," "black thoughts," which suggest—as, indeed, the statistics of Calkins and Lemaître denote—that some degree of chromatic encephalopsy is much commoner than might be supposed. The phenomena have not escaped the attention of imaginative writers; Gautier, for instance, speaks of hearing the sound of colours. The symbolist Arthur Rimbaud has described in a sonnet the colour associations he assigns to the five vowels. René Ghil, criticizing this poem, affects indignation that "u" is called a green vowel, whereas it is obviously yellow! Barbey d'Aurevilly used to indite polychromatic manuscripts, using inks of every obtainable colour. In one of the poems ("Correspondances") of his *Fleurs du Mal*, Baudelaire in 1857 stated with admirable precision a fact of which few then had the least inkling:

> Comme de longs échos qui de loin se confondent
> Dans une ténébreuse et profonde unité,
> Vaste comme la nuit et comme la clarté,
> Les parfums, les couleurs et les sons se répondent.[3]

[2] *Bulletin de l'Académie de Médecine*, No. 21. *Séance* du 23 Mai, 1916.

[3] Like long echoes which mingle from afar in a shadowy and profound unity, vast as the night and the day, odours, colours, and sounds correspond.

THE INDIAN MEDICAL SERVICE.

WE understand that the Secretary of State for India in Council has approved and promulgated an Order, dated June 20th, 1916, providing that the President of the Medical Board shall also be the Medical Adviser to the Secretary of State for India. All reports and communications regarding medical and sanitary matters and regarding the organization, personnel, recruitment and appointment of officers in the Indian Medical Service, and the organization of and appointments to the nursing and sanitary services, will be referred to him in his capacity of Medical Adviser to the Secretary of State. It will be his duty also to advise on the terms of proposed new orders. Further, he is authorized to submit on his own initiative recommendations on any of the above-mentioned subjects to the Secretary of State. One of his special duties will be to supervise the recruitment of the Indian Medical Service, and he is authorized to communicate freely on the subject with the heads of medical schools and other representatives of the medical profession, and to visit, if necessary, provincial centres of medical teaching, with a view to bringing to the notice of the Secretary of State questions in connexion with recruitment that may seem to him to require consideration. This Order in Council is, we have no hesitation in saying, a move in the right direction, and will eventually, we feel confident, have a very beneficial effect on the Indian Medical Service and on the inhabitants and servants of the great dependency for the benefit of which it exists. Every specialized service, whether in India or at home, has to run the gauntlet of the lay advisers, especially the financial advisers, of the Minister; but the Indian Medical Service, like other special Indian services, has to run two gauntlets—the first with the Government of India, the second in the India Office at home. Hitherto the position of the President of the Medical Board has been anomalous. He has had much responsibility and little authority. This is always an unhealthy system, and we hope that under this new Order in Council it will in future be found that responsibility and authority are commensurate. We believe that under the present Secretary of State the needs of India, of the great Indian Civil Services, and of the Indian Medical Service, which ministers to them all, are certain of receiving sympathetic consideration. The late Mr. Joseph Chamberlain, when Secretary for the Colonies, was the first British Minister to grasp the importance of the utilization of every resource of medical science for the prevention and cure of disease if the home policy towards distant dependencies were to be conducted on the lines of true progressive statesmanship. The part he took in the foundation of the London School of Tropical Medicine, and the encouragement he gave to the sister institution established in Liverpool are evidence that he understood the great obligation which fell upon Britain, as the guardian of so many nations in tropical and subtropical countries, to take its share in the extension of knowledge by giving facilities for its acquisition, by establishing schools for its dissemination, and by suitably rewarding those who contributed to its advance. His son, inspired by the same openness and breadth of mind, is pressing along the same road, and setting an example which future occupants of the great office he now holds will not be disposed to ignore. Sir Joseph Fayrer was President of the Medical Board of the India Office for many years; the present occupant is Sir R. Havelock Charles, who succeeded Sir Arthur Branfoot a few years ago.

THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

IN the annual report for 1916 of the museum of the Royal College of Surgeons of England the Conservator, Professor Keith, announces that the collection remains closed except to those who require access for purposes of research. The lectures have been delivered as usual, illustrated whenever necessary by such specimens as were especially required. First-aid students have been allowed many opportunities of studying anatomical and pathological preparations. Donations to the museum have been almost as numerous as in peace time, when a great series of spirit specimens were not, as now, stored for security in the basement. The large working staff of the museum is reduced to three men. Last year the Conservator announced that the Council of the College had undertaken, at the request of the Director-General A.M.S., the collection and preservation of such specimens as may illustrate all phases of military surgery of the present war. Thanks to the energy of medical officers in France, the assemblage and dispatch of specimens to the museum since the beginning of this year has been carried out most satisfactorily under the superintendence of Major T. R. Elliott, F.R.S., so that over 500 specimens, all judiciously selected, have been added to the War Office collection. They have been classified by Dr. W. Colin Mackenzie according to the nature of the lesions exhibited by them. On June 6th Colonel A. E. Bradley, Major Lyster, and Major Ford, of the United States Army Medical Service, and Surgeon Pleadwell, of the United States Naval Medical Service, visited the museum and examined the collection of war specimens and the methods used for their preservation. At the same time the collection was visited by Dr. Hugh Cabot, of Harvard University, accompanied by twenty-five doctors who are to serve under him in France. Sir Rickman Godlee and Captain D'Arcy Power, Mr. James Berry, and Mr. Newbold have contributed independently to the war series of field dressings, etc. Mr. Shattock, in reporting on the pathological department, announced that all old preparations showing the effects of gunshot, mostly dried bones obtained after the Peninsular and Crimean wars, have been redescribed, remounted and brought together so as to make up the concluding series of the Section of General Pathology, and to this collection is added a set of copies of Professor Boys's photographs of "flying bullets." The physiological curator, Mr. R. H. Burne, who returned in the spring from a military hospital in France, announces that Dr. Cuthbert Christy has presented to the museum the viscera of the Okapi, brought last year from the Belgian Congo; Mr. Burne is now engaged in comparing these viscera, the first that have reached Europe, with those of a fetal giraffe born in the Zoological Gardens, and presented during the past year by Professor J. P. Hill. The collection of microscopic preparations and the vertebrate skulls once the property of Professor Allen Thomson, F.R.S., have been presented to the museum by his son, Professor J. M. Thomson, F.R.S. Professor F. G. Parsons has presented a series of clavicles illustrating the variations of that bone in association with age, sex, and proportions of the entire skeleton; and Professor J. Symington has contributed preparations demonstrating how far the arrangement of the convolutionary pattern of a brain can be deduced from a study of endocranial casts. Thirty-three demonstrations based on the contents of the museum were given during the past year, and of these, twenty-five, conducted by the Conservator, were designed to meet the needs of first aid ambulance students. All the demonstrations were well attended.

DOCTORS AND THE WAR.

THE Gateshead Division has drawn up a statement embodying the views of the Division on questions affecting the present position of doctors owing to the war, for a copy of which we are indebted to the Chairman, Dr. D. M. Millar, and the Honorary Secretary, Dr. James Patton. The statement expresses views with which the profession generally will be in agreement. It begins with a strong protest against the reduction of the notification fees for infectious diseases, specially noting the meanness of the Act at the present time when doctors are so hard hit by war conditions and are doing so much free work, and other work for which they will probably never be paid. The

removal of several millions of the best lives from the panel list and their replacement by women workers who require much greater attendance for the same payment, has particularly affected panel doctors. The calling up of so many men, especially married men, has left enormous numbers of wives, children, old fathers and mothers, and other dependants to the generosity of the doctors, and the burden of panel doctors has still further been increased as they have to receive on their panels men who have been discharged from the services owing to ill health or injury. There can only be one answer to the question, Should the doctors or the community bear that burden? Evidently the public and the House of Commons cares little who does the work so long as it is done. The letter goes on to summarize what the profession has done under the auspices of the British Medical Association in the way of providing for the carrying on of the practices of doctors who join the army, and shows how, through the Medical War Committees, a large number of doctors have been enabled to give their services to the nation who otherwise could not have left their practices. In addition, the doctors remaining at home are now attending a large number of dependants of soldiers and sailors free of charge, and in many cases are giving free services to ambulance units and small hospitals, while to their private patients they have not increased their fees beyond a moiety of the increased cost of drugs, appliances, food, and other things. The House of Commons has sanctioned a slight rebate on petrol, which only affects those having motor cars, but at the same time it has reduced the notification fees for the whole profession. It is not so much the actual loss inflicted on it that calls for protest, as the lack of understanding and appreciation of the big burden the profession has shouldered. "The time has now arrived," the statement continues, "when a serious warning must be given to the House of Commons and to the public. Medical men will not continue to bear burdens that the nation should and must be responsible for. . . . The profession of a doctor is also his livelihood, which cannot be run on philanthropic lines any more than that of an ordinary business." "We may be compelled to refuse to continue our present free attendance upon the wives, children, and dependants of soldiers and sailors, and demand payment at the time of each attendance." The letter concludes with a warning "that trouble will surely come, and that the House of Commons, by its action and want of action, is responsible for it."

THE INTERESTS OF ABSENT COLLEAGUES.

The steps which the profession should take to safeguard the interests of its members serving with the navy and the army have called for much anxious consideration from the very beginning of the war, when medical officers of the Territorial Force and Special Reserve were at once called out. Solutions of the difficulty, more or less complete, have been worked out in some districts, but there has not been any general scheme. A good deal of experience has, however, accumulated as to the difficulties which arise, and the means by which they can be met are better understood. The Central Medical War Committee has under consideration a scheme, submitted by Dr. Thomas Campbell of Wigan, embodying an agreement in legal form to be made between an absentee and his deputy or deputies. The Committee was able at once to approve of certain parts of the scheme. It approved, for example, the suggestion that an agreement in proper legal form should be executed between the medical man taking a commission R.A.M.C. and the practitioner or practitioners undertaking his work in his absence. It approved also the suggestion that a committee should be formed by the practitioners of the district to which the agreement should relegate such powers as would enable it to deal with all disputes arising between the absentee and the deputy in regard to any questions affecting the absentee's practice, or its conduct by the deputy. The suggestion was made that possibly the local War Committee might assume these duties, and that the decision of any committee established should be binding on both parties. Another point approved was that the deputy should give an undertaking that for one year after the absentee's return, or after his death, or after the sale of his practice, or after the deputy has ceased to act, as the case might be, the deputy would not attend any patient on the list of private patients supplied by the absentee. Another provision was that the deputy should give six calendar months' notice of his intention to resign to the absentee's representative, or to the committee, and that if the absentee's representative did not appoint a fresh deputy the committee should do so. Certain general principles having thus been dealt with the draft scheme and agreement were referred to the Executive Subcommittee with instructions to consult the solicitor, and to bring up a revised scheme and model agreement to the next meeting of the Central Medical War Committee. When the terms have been finally approved it is proposed to forward copies of the scheme and agreement to all local medical war committees in England and Wales, and to suggest that the drafts may serve as bases for agreements between men going on service and those doing their work, for it was recognized that modifications might need to be made to suit the needs of particular localities. In Scotland a great deal has already been done in the desired direction, and we believe that particulars and advice can be obtained on application to the secretary of the Scottish Medical Service Emergency Committee, Royal College of Physicians, Edinburgh.

THE RATIO OF DOCTORS TO INSURED PERSONS.

At the meeting of the London Insurance Committee on June 29th the question of the sufficiency of doctors to give adequate treatment to insured persons in London was raised, and in illustration of the doctrine that there are great inequalities between different areas, Mr. James Skinner is reported to have asserted that, whereas in Hampstead there was one practitioner to 724 insured persons, in Shoreditch there was one to 5,000. Mr. Skinner may have been incorrectly reported, but as very similar statements, even agreeing in the ratio of one panel doctor to 5,000 insured persons, have been put forward before in relation to certain London areas, we may shortly examine this. In the official list of panel doctors issued in January, 1915, the number shown in Shoreditch was 125. Unless there has been some extraordinary exodus of panel doctors from Shoreditch, and if the average is still one panel doctor to 5,000 insured persons, then there must be some 625,000 insured persons in Shoreditch. Having arrived at this conclusion, the inquirer will be surprised to find that the total estimated population of Shoreditch in the middle of 1914, as given by the Registrar-General, was 109,569 inhabitants of all ages and both sexes, insured and uninsured. If Mr. Skinner's statistics are right, then we must assume either that nearly all the doctors have fled from Shoreditch or its population must have increased by such leaps and bounds as would excite the envy of a kangaroo. However this may be, we know from official publications of the London Insurance Committee and the Registrar-General that instead of there being one panel doctor to 5,000 insured persons there was at the beginning of last year one panel doctor to every 877 inhabitants of all ages and both sexes. The case of Hampstead, with one panel doctor to 771 inhabitants, is not so very far removed. If we take Bermondsey, with regard to which very sensational statements have been made, we find that in January, 1915, there were 90 panel doctors to an estimated population in the middle of 1914 of 124,683; this is a proportion of one panel doctor to 1,385 inhabitants of all ages and both sexes. As a matter of fact, the

proportion appears to be highest in Islington, where there are 220 panel doctors to an estimated population of 325,496, or a proportion of one panel doctor to 1,480 inhabitants of all ages and both sexes. If it be true, as some assert, that there are panel doctors in Shoreditch and Bermondsey who have 5,000 insured persons on their list, it is clear that this must be due either to a defect in distribution of insured persons among the panel doctors, or to some quite extraordinary exodus of panel doctors from these districts since January, 1915. We have not heard of such an exodus, and it is difficult to believe that four-fifths of the panel doctors in either borough have gone away. If they have in fact gone away, and if they have gone into the army, we have nothing to say; but if anything approaching four-fifths have not gone into the army nor gone away anywhere else—and this seems the more probable alternative—then it would appear that the needs of insured patients in these boroughs, as in probably all other metropolitan boroughs, could be met by a proper adjustment, to meet the present emergency, by which those panel doctors having very few insured patients should be invited to take over temporarily the excess from the lists of those who have many thousands.

A HEALTH RESORT AND ITS HEALTH OFFICER.

ON March 17th, 1916, Dr. W. H. Symons, who for the last twenty years has been medical officer of health for Bath, received formal notice from the Town Council terminating his engagement at the expiration of the year for which he had been appointed on July 15th, 1915. The Bath City Council invited applicants for the appointment; its advertisements were not inserted in the medical journals, but the *Bath and Wilts Chronicle* of June 29th stated that nine candidates had applied and that a selection would be made at a meeting of the City Council on July 4th. It was announced that in addition to the ordinary duties of medical officer of health the officer appointed would be required to act as medical superintendent of the Infectious Diseases Hospital (another medical practitioner having charge of the patients), as superintending officer under the Mental Deficiency Act, as inspector under the Midwives Act, and to perform any other duties required by the City Council. The salary offered was £500 a year, with reasonable travelling expenses, the same amount as had been paid to Dr. Symons. Dr. Symons had objected to the terms, and the Bath Council appear to have preferred to terminate his appointment rather than pay a reasonable salary. Upon this point it is to be noted that the Bath Division of the British Medical Association adopted a resolution affirming that it was unfair to expect Dr. Symons to undertake the duties of superintending officer under the Mental Deficiency Act in addition to his other work without extra remuneration. On June 16th the President of the Local Government Board caused a letter to be sent to the city council, stating that he had further considered the proposal of the council to make a fresh appointment to the office of M.O.H. for the city. The letter continued as follows: "At the present time a large number of doctors are serving with the forces, and in the near future a further number will be required. For this reason Mr. Long has suggested in other similar cases that the present is an inopportune time for making new appointments; and I am, therefore, to suggest for the consideration of the town council that it would be better to continue the existing arrangements until after the war." Nevertheless, the council resolved to proceed, and invited the nine candidates to attend a meeting of the Sanitary Committee on July 3rd. Five did so attend, but all withdrew their applications on learning the true position; the other four had withdrawn previously. At the meeting of the City Council on July 5th it was resolved to accept the advice of the Local Government Board and to withdraw the notice terminating Dr. Symons's engagement. We hope that this means that nothing more will be heard of the proposal, but it is somewhat astonishing that a place like Bath, which depends for its prosperity entirely upon the health-giving waters and the healthy conditions of life it holds out as an inducement to visitors, should boggle about so paltry a matter. The incident has, however, a wider significance. Session after session before the war, and even since the war commenced, the Legislature has imposed on local authorities new duties, with the laudable aim of improving the conditions of life in town and country. It knows that all these new duties must increase the work carried out for the local authorities by their officials, but it does not, as a rule, institute any new machinery. This is left to the Local Government Board, and we venture to think that that Board might go a good deal further than it has hitherto, or than is suggested in Mr. Long's letter, for it has great influence with local authorities, including the power of the purse, and might make its influence felt far more effectively than it does.

EPSOM COLLEGE.

THE annual general meeting of governors of Epsom College was held on June 30th, Sir Henry Morris, treasurer, in the chair. Among the members present were Sir R. Douglas Powell, Sir James Reid, Dr. de Havilland Hall, Mr. John H. Morgan, and Dr. Guthrie Rankin. The report of the council gave an account of the award of scholarships and pensions, and of the work of the school during the past year. It further stated that there were at present over 520 old Epsomians serving with the forces, of whom 420 had joined since the outbreak of the war. In the roll of honour of the school were the names of 21 killed in action, 4 who had died in hospital, 40 wounded—two twice—4 missing, and 1 a prisoner. Twenty-seven old Epsomians had been mentioned in dispatches—4 twice, 3 (since killed) had been awarded the D.S.O., and 7 the Military Cross. In moving the adoption of the report the chairman drew attention to the loss of subscriptions resulting from the war. He mentioned that a member of the council had recently procured a sum of over forty guineas in annual subscriptions, and he hoped that other governors would bring the work of the Royal Medical Foundation attached to the College under the notice of their friends. He made appreciative reference to the services rendered to the College by the Editors of the BRITISH MEDICAL JOURNAL and the *Lancet*. The British Medical Association had been specially helpful in collecting subscriptions, and the Medical Insurance Agency had recently sent a donation of £100, bringing the total of its donations to over £500. A vote of thanks to Sir Henry Morris for his services as Treasurer was moved by Sir James Reid, seconded by Mr. John H. Morgan, and carried by acclamation.

OXFORD OPHTHALMOLOGICAL CONGRESS.

THE first day of the Oxford Ophthalmological Congress this year (Thursday, July 13th) will be devoted to a discussion on the relation of ophthalmology to general medicine, to be opened by Sir William Osler at 10 a.m. Captain P. H. Adams, Deputy Master of the Congress, will speak on the prognostic importance of retinal haemorrhages, Mr. W. H. H. Jessop on the co-operation of physician and ophthalmic surgeon, and Dr. F. E. Batten on the association of familial diseases of the nervous system and of the eye. After adjournment to luncheon in Keble Hall the discussion will be continued at 2.45 p.m. by Sir Anderson Critchett. On Friday a number of independent papers will be read; in the afternoon Captain Adams will show a long series of cases; Mr. B. H. St. Clair Roberts will show cases of glass-blower's cataract in chain makers, and will give an account of the conditions under which they work; and Mr. T. Harrison Butler will show a case of spring catarrh treated with radium. The Congress will be welcomed at the opening meeting by the

Master, Mr. Sydney Stephenson, and the Warden of Keble College, the Rev. W. Lock, D.D., will take the chair at the dinner held in the College on Thursday evening. There will be an informal dinner at Keble College at 8 p.m. on Wednesday, July 12th, and an excursion by river to Reading or Henley on Saturday, July 15th. During the Congress an exhibition of ophthalmological instruments and apparatus will be open in the anatomical department, University Museum. The Secretary of the Congress is Mr. Bernard Cridland, Salisbury House, Wolverhampton, to whom members should send the subscription (10s. 6d.), and from whom a detailed programme can be obtained.

Medical Notes in Parliament.

War.

British Prisoners in Switzerland.—Mr. Tennant stated on June 28th that arrangements had been made for the dispatch of all articles needed by British prisoners of war in Switzerland on the requisition of an officer specially attached to the British Legation at Berne to look after their interests. He continued as follows: "I should like to take this opportunity of expressing publicly on behalf of His Majesty's Government their thanks to the Swiss Government and people for the cordial welcome which was given to the prisoners on their arrival. The accounts of the reception have been received in all quarters with the warmest satisfaction."

British Prisoners in Bulgaria.—Sir Edward Grey stated on July 4th that the Foreign Office was informed that all the British prisoners in Bulgaria had been assembled at Philippopolis, with the exception of a small number who were at present employed in construction work in the interior, who would be sent to Philippopolis when it was finished. The prisoners were treated on an equal footing with Bulgarian soldiers. Parcels were being distributed to them and their health was good.

Doctors' Chauffeurs.—Mr. Rowlands on July 3rd asked whether attention had been called to the inconvenience caused to medical men with large rural practices by their chauffeurs being taken for military service, and whether the advisability of enrolling these men in the R.A.M.C. and leaving them in their employment until absolutely required had been considered. Mr. Tennant said that there was urgency in the demand by the army for motor car drivers. Subject to this paramount consideration, arrangements had been made for the consideration of individual cases on their merits.

Dentists.—Mr. Tennant stated on June 29th that claims for the exemption of dental surgeons whose services the principal medical officer considered indispensable had been assented to conditionally on their services with the troops being continued. In other cases dentists had had recourse to tribunals in the ordinary way. A decision by the central tribunal in a recent case had been circulated to tribunals. In this case the dentist was granted exemption conditionally on his remaining in his present occupation. The following was added:

> The central tribunal, from evidence submitted to them, are impressed with the danger of further reducing the number of registered dentists now in this country. Whether any particular dentist should be granted exemption must obviously depend to some extent upon the requirements of the place in which he practises, but they are inclined to think that unless it be shown that his services are not required he should be granted exemption. Similar considerations apply to the mechanics on whom dentists depend for the efficient performance of their work.

Mental and Nervous Cases (Royal Navy).—In a written reply to a question by Commander Bellairs, the Financial Secretary to the Admiralty said that the treatment of all cases of mental and nervous breakdown was undertaken in the three large base naval hospitals at Chatham, Haslar, and Plymouth. A medical officer who had made a speciality of such cases was detailed to each hospital, and he had as many beds allotted to him as was necessary. The treatment adopted was not to collect these cases into one ward or one building, but to separate them from each other as far as possible, treating them with other general cases of illness. So far this method of treatment had been followed by favourable results, but the number of cases of this type from the fleet was not sufficiently large to enable more than a probable estimate of its value to be formed as yet. Later on, it was hoped, a detailed report of the results obtained would be of value.

Industrial Training.—In reply to a question by Mr. Jonathan Samuel, on July 4th, as to the number of disabled soldiers at present receiving industrial training under schemes initiated by the Statutory Pensions Committee, Mr. Hayes Fisher (Parliamentary Secretary to the Local Government Board) said that the Statutory Committee thought it desirable to utilize existing schemes for training disabled soldiers pending a full consideration of this difficult and complicated subject. A number of schemes were in operation.

Steel Helmets.—In reply to Colonel Yate, Mr. Tennant said on June 28th that down to the previous week the full number of steel helmets asked for had been supplied. A further demand had just been received, and would, it was hoped, be met before long.

Reports of Factory Surgeons.

In moving the second reading of the Police, Etc. (Miscellaneous Provisions) Bill, on July 4th, the Home Secretary began by defending the action of the Government in accepting the recommendation of the Retrenchment Committee that the reports of certifying surgeons on accidents, which cost £12,500 a year, should be dispensed with, on the ground that they were of little value and entailed in all serious cases duplication of the reports made by the inspectors. The proposal, he said, would leave untouched many of the duties of factory surgeons, including certifying the physical fitness of children and young persons seeking work, the examination of cases of industrial poisoning and the periodical examination of workers in dangerous trades, with respect to which the Home Office was continually enlarging the functions of certifying surgeons. It will be remembered that a joint deputation from the Association of Factory Surgeons and the British Medical Association waited upon the Home Secretary on May 5th with reference to this matter, and Mr. Samuel was rather querulous with regard to the opposition offered to the abolition of the reports by the doctors themselves. Sir Henry Craik (Glasgow and Aberdeen Universities) criticized the Home Secretary's attitude, and pointed out that it was the duty of a certifying surgeon to see the injured workman himself; he was far more likely to receive a full and free account of the accident than a mere mechanical inspector. Mr. Tootill (Bolton) considered that the safety of the workman ought to be the primary consideration of the Government; workmen often depended on the doctors' evidence. Sir Philip Magnus (London University) followed on the same side, and said that he hoped to be able to show at the Committee stage overwhelming reasons in favour of retaining the services of certifying surgeons. Mr. Stephen Walsh recalled the condition of labour before 1833, and said that the trade unions and the workers of the country had never raised any objection to certifying surgeons. Certifying surgeons lived well within the immediate localities, and were quickly on the scene, so that they were able to speak as to the conditions under which the accident occurred with an authority and definiteness that an inspector could never possess. Sir J. Yoxall, speaking as the father to the Children Bill, appealed to the Home Secretary to withdraw the clause. Mr. Brace defended the clause, but Mr. A. Williams supported the arguments of Mr. Walsh, and eventually the Home Secretary, admitting that it was of immense importance to safeguard the life and limb of the worker, promised to reconsider the matter and to put down an amendment. He recognized the importance of having special medical reports in cases which were not instances of an accident caused by negligence, but due to septic poisoning or gassing, or to the effect of deleterious chemical substances. He said, however, that he did not believe the reports which it was proposed to abolish had the value some speakers had attached to them, and could not promise to ask the House to vote money which he considered was wasted.

Petrol.—Mr. McKenna stated on June 28th that the total import of petrol spirit into the United Kingdom in the twelve months ended May 31st, 1916, was 144,000,000 gallons, and that duty was paid on 113,600,000 (at commercial rates 48,500,000, at private rates 65,100,000). The estimate of £962,000 as the amount likely to be received from the new petrol licence duty was based upon an estimated annual consumption—32,500,000 gallons for private cars and cycles, 8,000,000 gallons for commercial cars (exclusive of hackney carriages), and 4,000,000 gallons for doctors and veterinary surgeons.

THE WAR.

TREATMENT AND EDUCATION OF CRIPPLED SOLDIERS.

THE CENTRAL MILITARY ORTHOPAEDIC HOSPITAL AND SCHOOL IN VIENNA.

THE war has already reaped a large harvest of disabled and mutilated men, and no one can tell to what great total their number may at last come. Already steps have been taken by all the belligerent nations to relieve disabilities, to supply substitutes for lost parts, and to help the men to learn or relearn some trade which may render them at least in part independent of pensions or charity.

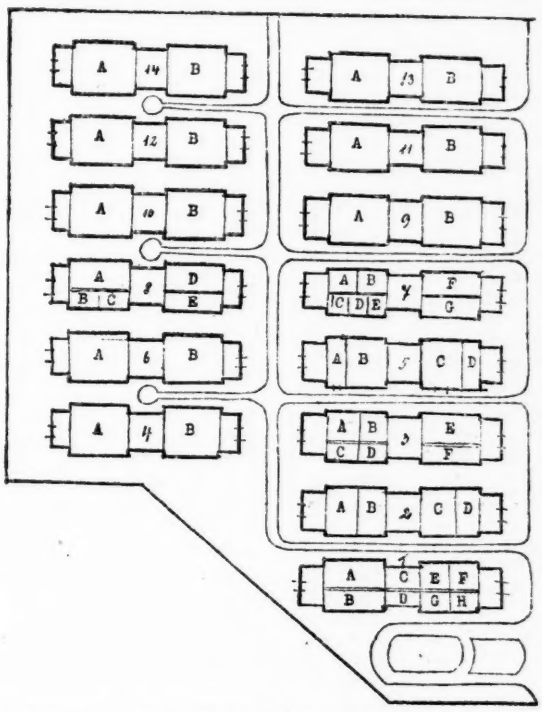
In England, as readers are aware, a good beginning has been made on a large scale. An Inspector of Military Orthopaedics has been appointed for the army, hospitals for the fitting of artificial limbs have been established in England at Roehampton and in Scotland near Glasgow, and similar work is being done in Ireland, we believe at Tipperary. In addition, a hospital has been established at Brighton for the reception of soldiers who require rest and surgical treatment before they are ready to have artificial limbs fitted, and steps are being taken, or have already been taken, in all home commands to establish special orthopaedic hospitals or special orthopaedic sections of general military hospitals for dealing with these cases.

We have been able to give from time to time accounts of the admirable arrangements made in France for providing maimed soldiers with artificial appliances and for their education in various suitable occupations. The work is centralized in Paris, but there are branches in many of the chief provincial cities. In Italy the work has been taken up by a national federation, which has the assistance of the Government, of the Red Cross Society, and of the local authorities. We have also given some account of the work done in Germany, where the arrangements made in advance in anticipation of a short and easy war fell far short of actual requirements. It would appear that strenuous efforts are being made to get the organization going again.

In Austria-Hungary, where Red Cross work had been much better organized before the war than in Germany, a great deal of good work has been done, to which reference was made last April in connexion with the congress held in Berlin early this year to discuss the care and education of crippled soldiers. At that congress Professor Spitzy, the well-known orthopaedic surgeon of Vienna, described the organization and arrangement of the orthopaedic hospital and school for wounded soldiers established under his direction. We are now able, through the publication of his report,[1] to give an account of the arrangements.

The hospital was started in the beginning of 1915 with 600 beds, and has since been expanded, until it includes within its walls 3,000 patients, and a regular town of forty large huts, besides the central hospital buildings. As a hospital it affords opportunity for the application of orthopaedic treatment by operative mechanical methods. It is its development as a training school for crippled soldiers which will have most interest for us.

Professor Spitzy classifies the callings of the men who had attended the schools for disabled soldiers up to the date of his lecture into twelve categories. Nearly half of them were agricultural labourers or otherwise employed on the land. (It is to be remembered that Austria and not the German Empire is in question.) In the remaining eleven categories the proportions are fairly evenly graduated from the 10 per cent. of the day labourers and servants in families and institutions down to the 2¼ per cent. of the workers in leather and textile industries.


A, Agriculture. 14 B, Agriculture, gardening, etc.
A, Stonemason, potter. 12 B, Musician.
A, Upholsterer. 10 B, Machine woodwork.
A, School for one-armed. B, Beginners. C, Handwork. 8 D, Drawing studio. E, Typewriting.
A, Cartwright, turner, cooper. 6 B, Carpenter and joiner.
A, Furrier. 4 B, Glazier.
A, Machine shoemaker. 13 B, Mechanical shoemaking.
A, Tailor. 11 B, Mechanical tailoring.
A, Machine weaving. 9 B, Classroom for theoretical instruction.
A, Watchmaker. B, Hairdresser. C, Knitting machines. D, Dental artificers. E, Dentist. 7 F, Installers (? electrical), tinsmith. G, Tool finishing.
A, Garage. B, Machine work locksmith. 5 C, Domestic locksmith. D, Smithy.
A, Copyist. B, Bookbinder. C, Photographs. D, Artist's studio. 3 E, House painter. F, Paperhanger.
A, Shoemaker. B, Orthopaedic shoemaker. 2 C, Saddler. D, Basketmaker.
A, Store room. B, Inquiry office. C, Waiting room. D, Commandant. 1 E, Medical director. F, Social director. G, Administrative director. H, Technical director.

Plan of the school for crippled men at Reserve Hospital XI, Vienna, showing the trades taught in the various buildings.

Centralization, Professor Spitzy says, was rendered necessary by the circumstances of the country, in which there are few large towns, and by the scarcity of skilled surgeons and teachers. Owing to the economy of attendance and instruction possible in a large establishment, it has been found that one medical officer is enough for 200 patients. At the same time, the training of more orthopaedic surgeons and teachers is not lost sight of, so that later on it will be possible to decentralize and carry on the work at the same time in various places. In this institution disabled men are treated for curable deformities and paralyses, are fitted with artificial legs and arms, and are educated or re-educated so as to fit them for the successful pursuit of their former callings or some other. The artificial limbs supplied are made and repaired on the premises and so far as possible standardized, so that new interchangeable parts and new limbs can be sent to men at a distance, and supplied to other institutions in the country. Patients are fitted soon after their arrival with temporary limbs, which they wear and use during their periods of instruction; the permanent limbs are supplied later, and not long before discharge.

Professor Spitzy does not give any information as to

[1] *Medizinische Klinik*, Berlin, April 16th, 1916, No. 16.

the kind of limbs supplied, but judging from some of the illustrations of the article, which include men working as carpenters and using a scythe, the arms are made for use and not for show. Probably they are of one of the types which seem lately to have been widely adopted in the German Empire, and which consist essentially of a bucket as short as possible, to which is attached a jointed metal arm and various devices. In this arm the levers are kept short, and there is no attempt at supplying an artificial elbow-joint.

For ornamental purposes a "Sunday arm" either fits over the working one or is a separate apparatus. It is claimed that an arm of the latter kind can be made for 20 marks (£1). No descriptions or illustrations of legs are included in this article, and we gather that Professor Spitzy has dealt with this part of the subject in his *Technik der Kriegsinvalide*, of which we have not yet seen a copy.

It is obvious that the surgeon, while he must decide on the kind of work for which the patients are fit and give a prognosis of each case, cannot carry on the educative part of the work, which is of great importance. Therefore a number of technical instructors are also required as well as social agents, whose duty it is to look ahead and prepare places and employment to which the men shall go directly they are discharged.

A glance at the diagram will show the complexity of the instruction and the number of trades taught.

On admission each patient, after the usual cleansing procedures, goes before a board consisting of the following seven persons: The operating surgeon, the surgeons for amputation cases, for contractions, and for nerve injuries respectively, the medical director of invalid schools, the director of theoretical teaching, and the social director. The patient is allotted to the appropriate surgeon, the invalid school surgeon states what the man is fit for, and the social director looks out for a situation in due time for the man, if possible with his former employer.

A most elaborate system of recording and preserving the history and progress of each case is in use. Supposing, for example, that a man who has undergone amputation is supplied with a temporary limb in the middle of February, in May he will receive his permanent artificial limb. He attends an invalid school almost at once, and at the end of May goes to a situation. An elaborate statement as to the course of treatment and instruction he should undergo is prepared by the surgeon on admission, and any departure from it must be reported to the commandant.

Discipline throughout is necessarily strict, but this in itself is a good thing, as it keeps the patient prepared for the hardness and difficulties of his after-life, for which injudicious petting would spoil him.

Professor Spitzy remarks that, of the cases, 30 per cent. are contractures and stiffness of joints, 30 per cent. nerve cases, of which, owing to his reputation as a specialist, probably more than an average proportion are sent to his hospital, and 30 per cent. amputations; the remaining 10 per cent. are not classifiable. Of the amputations, one-fourth were of the upper and three-fourths of the lower extremity. (At the Roehampton hospital we believe that the proportion of arm cases treated is somewhat higher.) Up to January 1st, 1916, out of 6,674 patients, 1,000 had returned to the army and 1,000 to civil life. It would seem, therefore, that Professor Spitzy's optimistic remark that only a small proportion of the injured are unfit to resume their old occupations is premature, for, apparently, 4,674 cases are still unaccounted for.

It is to be gathered from the above short summary that in Austria the problem of the treatment and provision for the wreckage of war has made more progress than has yet been achieved in this country. The opportunity is taken of improving the theoretical and technical education of the men, and also to give them all a knowledge of the German language, which, as is well known, is by no means general throughout the polyglot Austro-Hungarian empire.

FARM WORK FOR DISCHARGED SOLDIERS.

Of the many thousands of patriotic young men who have been wounded in the service of the country, there must be a large proportion who will need a prolonged period of convalescence before they are able to resume remunerative work. During this period many of them will be in receipt of disablement allowance, although only partially disabled, and may be living under unsatisfactory conditions, whereby their return to full earning capacity is greatly delayed, if not actually prevented. To meet such cases it has been suggested that farm sanatoriums should be established, in which men would be enabled to live in healthy surroundings, and to do such work on the land as they can. They would be required to pay a portion of the cost of their maintenance out of their allowance, but would receive full wages for such work as they might be competent to undertake. They might thus gain health, knowledge, and experience simultaneously, and when fully convalescent would be far better able to make a fresh start than they would have been if assisted by the disablement allowance alone.

A pamphlet by Mr. Harold E. Moore[1] sets forth the proposals which he laid before Lord Selborne's committee on the subject of the settlement and employment of discharged soldiers on the land. Settlement is held to imply holdings rented or purchased, employment signifying engagement at wages, with or without share of profits. The committee's report with regard to settlement has been published, and Mr. Moore's recommendations differ from those in the report only in respect of the substitution of market gardening for the more ambitious schemes involving a good deal of mechanical power.

It would seem obvious that the classification of the various degrees of disablement or other incapacity for doing remunerative work must be undertaken by some central authority. Mr. Moore explains his views as to the way in which the various classes may find suitable work and corresponding benefit in farm sanatoriums, and mentions the efforts already made to find suitable sites for such farms. The scheme, which must needs be framed in conjunction with other charitable or mutual aid societies, cannot be a simple one and must involve considerable initial outlay. A still more elaborate plan is that for the establishment of co-operative hand-labour farms, for those who may be discharged with full working capacity, but no capital wherewith to make a start on the land.

Estimates are worked out to show how the advancement of capital on a liberal scale might be made to yield a good return to the colony of workers on the farm and a steady increase in the value of the farm itself.

In a third section the question of settlements of small holdings where the produce would for the most part be utilized by the cultivator and his family, is fully discussed. A plan of this kind has been started in Scotland with its headquarters in Edinburgh. A good deal has been done also by county councils in various parts of England, and the experience that they have acquired can be taken as a guide to more extensive schemes by other bodies or by private landowners. Mr. Moore believes that if all the money required were advanced by the State the result might prove a safe and profitable investment.

"EDUCATIVE CONVALESCENCE."

An interesting experiment is being carried out at the Heritage Craft Schools, Chailey, Sussex. It is on a small scale, and the friendly, homely conditions could not, perhaps, be reproduced on a larger scale, but the principle is sound. The Heritage Craft Schools were established some years ago for the benefit of crippled children, who, in addition to ordinary education were taught various trades. Dr. Basden, the senior medical officer of the school, in a short article printed in a pamphlet recently issued by the committee, states that "long experience with crippled children had proved that a large variety of motor disorders and much later treatment can be dispensed with if, while wounds are healing and the daily hospital work going on, the limbs can be made to move as naturally as possible, and simple, curative, and remedial exercises employed. . . . The cardinal need in any scheme of educative convalescence," he adds, "is to educate the kindly-hearted public to realize that the cripple, whether soldier or civilian, is not to be regarded as a confirmed idler, but that, however maimed or crippled, he can and should be taught to earn an honest livelihood." The idea as applied at the schools was to give to every newly

[1] *Farm Work for Discharged Soldiers.* By H. E. Moore, F.S.I., F.R.H.S. London: P. S. King and Son, Ltd. 1916. (Demy 8vo, pp. 30, 6d. net.)

maimed man one of the crippled children as an orderly, and it would appear that the wounded soon became absorbed in the general interests of the place, the arts and crafts, the exercises, and the various other occupations. After passing through the school the crippled children have more often than not been employed as foremen or forewomen, in spite of their physical disabilities. It is to be hoped that the same happy result may be obtained in the case of the wounded soldiers. The staple industry of the home is woodcraft, but other trades are taught, including farming and gardening.

CASUALTIES IN THE MEDICAL SERVICES.

ARMY.

Killed in Action.

CAPTAIN KENNETH HARRISON ALLOA KELLIE, R.A.M.C., was killed in action on June 25th, aged 41. He was born in 1874, and educated at Westminster School, Caius College, Cambridge, and St. George's Hospital, also studying in Paris, New York, and Boston. In 1903 he took the diplomas of M.R.C.S. and L.R.C.P.Lond., subsequently graduating at Cambridge as B.A. and B.C. in 1904, and as M.B. in 1905, and taking the M.R.C.P.Lond. in 1908. After filling the posts of clinical assistant for out-patients at Paddington Green Children's Hospital, assistant house-surgeon at St. George's Hospital, and house-physician of the Victoria Hospital for Children, Chelsea, he went into practice in London. He held the appointments of physician to the Belgrave Hospital for Children, assistant physician to the Royal Hospital for Diseases of the Chest, City Road, and medical registrar of the Prince of Wales's Hospital, Tottenham. At the beginning of the war he served for a time as a special constable; on April 1st, 1915, he took a temporary commission as lieutenant in the R.A.M.C.; on the completion of a year's service he was promoted to captain. He was a well-known oarsman, and had rowed for the London Rowing Club at Henley and at other regattas.

Lieutenant J. B. Haverson, R.A.M.C. (temporary).

Died on Service.

Lieutenant George Stanley Graham, R.A.M.C., was reported in the casualty list published on June 27th as having died on service. He was educated at Liverpool University, where he graduated as M.B. and Ch.B. in 1915, and took a temporary commission as lieutenant in the R.A.M.C. last November.

Lieutenant J. St. J. Dundon, R.A.M.C. (temporary).

Wounded.

Captain N. Black, R.A.M.C. (temporary).
Captain T. C. Clarke, R.A.M.C.(T.F.).
Lieutenant R. C. B. Briscoe, R.A.M.C. (temporary).
Lieutenant D. StC. Creighton, R.A.M.C. (temporary).
Lieutenant E. C. Lambert, R.A.M.C. (temporary).
Lieutenant V. F. Stock, R.A.M.C. (temporary).
Lieutenant J. Unsworth, R.A.M.C. (temporary).

Prisoners of War.

In the casualty list published on July 3rd it was stated that Major E. F. E. Baines, I.M.S., whose name had not previously been given, was believed to be among the prisoners taken at Kut.

DEATHS AMONG SONS OF MEDICAL MEN.

Ball, John J., Lieutenant Royal Field Artillery, only son of Dr. J. Barry Ball, of 12, Upper Wimpole Street, London, W., and of Layfield, Sudbury, killed in action on June 27th. He took a commission as second lieutenant in the 5th County of London Battery, 2nd London Brigade, Royal Artillery (T.F.), on October 20th, 1914.

Bird, Eric Hinckes, Lieutenant Royal Fusiliers, second son of the late Dr. Arthur Hinckes Bird, died of wounds on June 27th. He joined the Royal Fusiliers (City of London Regiment) as second lieutenant on August 30th, 1914, and became lieutenant on February 11th, 1915. He was serving in the Royal Flying Corps when killed.

Mathie, William Sidney, Lance-Corporal 5th South Staffords, second son of Dr. Mathie, of Kelvin House, Bilston, died at King George Military Hospital, London, from wounds, aged 28. He received his early education at Wolverhampton Grammar School, obtained first-class honours in the Cambridge senior examination and was awarded a county major scholarship. He subsequently studied engineering at the University of Glasgow, and had since been engaged in engineering work at Wolverhampton.

Pearson, Norman C., Canadian Highlanders, youngest son of the late Dr. Archibald Pearson of Ibrox, Glasgow, killed in action on June 3rd.

Watson, John O'Donnell, Armourer Corporal 10th Canadian Infantry, only son of the late Lieutenant-Colonel J. Watson, R.A.M.C., reported missing, now officially presumed killed in action at Ypres, April 23–24th, 1915, aged 28.

NOTES.

ALTHOUGH no details are yet available, we understand that the casualties in the great advance on the south part of the British line at the end of last week were less numerous than was feared. A certain number of the wounded have been sent to this country direct, but this was not because the accommodation provided at the British hospitals in France was strained; it was a matter of precaution in view of the possibilities of the immediate future.

MENTIONED IN DISPATCHES.

East Africa.

The *London Gazette* of June 30th publishes a dispatch, dated May 8th, from Lieutenant-General Smuts, Commander-in-Chief in East Africa, giving the names of officers and men specially mentioned, in continuation of his dispatch of April 30th. Among them are the following medical officers:

R.A.M.C.—Colonel (temporary Surgeon-General) G. D. Hunter, C.B., C.M.G., D.S.O.; Lieutenant-Colonel C. J. O'Gorman; Major R. T. Brown; Captain C. V. Thornton.

I.M.S.—Lieutenant-Colonels C. A. Johnston, R. G. Turner; Majors E. T. Harris, C. G. Seymour; Captains G. T. Burke, R. S. Townsend.

South African Army Medical Corps.—Captain S. T. Grinsell; Serjeant-Major H. P. Sheridan.

East African Medical Corps.—Lieutenant-Colonel A. D. Milne; Captains J. M. Mackinnon, C. J. Wilson.

Indian Subordinate Medical Department.—Assistant Surgeon A. R. Emmett (killed).

South African Military Nursing Service.—Matron Janet McLeash; Nursing Sisters C. R. Norris, B. Shepley.

East African Nursing Service.—Senior Nursing Sister I. L. Majendie; Nursing Sisters R. Paul, E. B. H. Wormald.

A CORRECTION.—In the list of I.M.S. officers mentioned in Sir A. Wilson's dispatches from Egypt, published last week (p. 28), the name of Lieutenant-Colonel J. Norman Walker was incorrectly printed as J. Norman.

HONOUR.

Among the recent recipients of the Distinguished Service Cross is Flight Sublieutenant Herbert G. Hall, R.N.A.S., son of Dr. C. Herbert Hall, of Watford, who received the award in recognition of his services on the morning of April 25th, 1916, when he carried out an air patrol with an observer during the attack by a raiding squadron of enemy ships on Yarmouth. Although severely wounded in the shoulder by shrapnel and weak from loss of blood, Flight Sublieutenant Hall succeeded in piloting the machine back to his station and landed safely.

THE BRITISH RED CROSS.

The British Red Cross has arranged to send to France a fleet of motor dental ambulances. The staff will consist of a dental surgeon and dental mechanic, and the ambulances will go far forward so as to be within reach of men in the trenches. They will do all ordinary dental work, but they are specially intended to deal with cases of men who are suffering from acute lesions of the teeth and gums, or what used to be known under the generic term of toothache, and with men whose artificial dentures have got out of order.

Good progress is being made with the hospital ship for the Tigris. She is to have a length of 150 ft. with 30 ft. beam, but the difficulty of construction so as to accommodate fifty or sixty cots, with provision for isolation which may be necessary in view of the occurrence of infectious diseases with the forces in Mesopotamia, is aggravated by the fact that her draught is not to exceed 2 ft. 6 in.

The main building of the Star and Garter Hotel at Richmond, which is to be converted into a home for incurably helpless soldiers and sailors, has been pulled down; foundations are now being got out for the new building, the plans for which are in a forward state. At the present time the patients are accommodated in the large rooms of the annexe of the old hotel, which have been converted into wards. The beds in use are of special design, and by a simple device can easily be wheeled out of the ward into the lift. From the lift they are taken to the garden level, and can then be wheeled on to the terrace, which commands the famous view from Richmond Hill. The society has purchased Ancaster House, facing the Star and Garter, and it will probably be converted into a home for officers deemed to be incurably injured. Happily in the case of the men the verdict "incurable" has not always proved to be correct, and it has been possible to discharge a certain number to their homes.

HOSPITAL FOR MAIMED SOLDIERS AND SAILORS.

A garden party was given at Queen Mary's Convalescent Auxiliary Hospital, Roehampton House, on June 28th. The patients are admitted to this hospital for their artificial limbs to be made and fitted. They were amused with sports, and it was certainly remarkable to see the pace at which these active

young men with only one leg could get over the ground. The visitors were chiefly interested in the newest pattern of artificial limbs, especially arms. Many improvements have been made, all in the direction of combining strength, lightness, and simplicity, with efficiency. By means of various attachments men demonstrated how they could do carpentering and feed themselves with a fork; by means of very simple attachments to the handle of an axe or to a fork other men showed how they could chop and dig. Visitors also saw the long range of workshops which have been put up in the grounds, and were able to follow the whole course of manufacture of the artificial limbs.

SCHOOLS FOR CRIPPLED SOLDIERS.

Dr. Raymond Cestan, professor of psychiatry in the Medical Faculty of Toulouse, and Dr. Paul Descomps, who are in charge of the neurological centre of the seventeenth region of the French army, in conjunction with Dr. Prost-Maréchal, director of the Sanitary Service of the Toulouse region, have established a school for the re-education of maimed soldiers in connexion with that of Ondes-sur-Garonne. The men are treated for four months and at the same time receive practical instruction in farm work.

A department for the supply of artificial limbs and the re-education of maimed soldiers has been opened in the English hospital at Venice. It is under the direction of Dr. Zoppi, senior orthopaedic surgeon to the civil hospital.

PHYSICAL CLINIC FOR WOUNDED AND DISABLED SOLDIERS.

We have received the following communiqué: The Physical Clinic at 126, Great Portland Street, W., was opened for the treatment of wounded and disabled officers on Monday, July 3rd. Last week it was on view for members of the medical profession and for hospital matrons and nurses, and was visited by Queen Alexandra and by the Princess Louise. The treatment, by means of baths, massage, and mechanical apparatus, is entirely free of charge. Every case will be examined by a physician and a surgeon of the honorary medical staff. Medical men who have under their care officers who they think would benefit by physical treatment are cordially invited to consult personally with members of the staff at the clinic. Telephone, Gerrard 7345.

Scotland.

THE Central Midwives Board for Scotland as finally constituted contains, in addition to those mentioned in our issue of February 12th, p. 253, the names of Miss Alice Helen Turnbull and Miss Isabella Scrimgeour, appointed by the Lord President of the Council.

The Royal Blind Asylum and School, Edinburgh, has now entered into possession of Newington House, which is to be used as a hostel for Scottish blinded soldiers and sailors. Provision is there made for thirty men. It is believed that the number completely blinded is at present about 200, but the directors of the school have kept in view the fact that there would be hundreds of men who, though not totally blinded at first, would eventually become wholly blinded unless kept under constant observation for some time by specialists.

WOMEN MEDICAL STUDENTS IN EDINBURGH.

As was foreshadowed in the JOURNAL for June 17th (p. 866), the measures to be taken to meet the difficulties incident to the sudden great increase in the number of women medical students beginning in Edinburgh are along lines which differ from those that are being followed in Glasgow to meet the same sort of emergency. Recently a letter from the lecturers of the Edinburgh School of Medicine for Women was, we understand, submitted to the University Court, in which the difficulties of teaching the large number of women coming forward were set forth and a conference with members of the Court was suggested. The question also of the relation of the University to the teaching of women students in medicine arose in the Medical Faculty and in the Senatus Academicus. At the present time the University Court recognizes from year to year the lecturers of the Women's School (which is extra-mural) as the sole teachers of the women medical students in Edinburgh whose lectures qualify for graduation in the university. But it is not necessary for the women students to take all, or indeed any, of their medical classes in Edinburgh; they may therefore graduate in the university without any attendance in Edinburgh other than at the professional examinations. The rule as it appears in the Calendar is as follows:

So long as within the Faculty provision is not made for the instruction of women in any subject qualifying for graduation in which provision is made for the instruction of men, it shall be in the power of the University Court to admit to graduation women who have received the requisite instruction in that subject in any university of the United Kingdom, or in any Indian, colonial, or foreign university recognized for the purpose by the University Court, or in such medical schools or under such teachers as may be recognized for the purpose by the University Court. Provided always that every candidate for graduation shall produce evidence of having satisfied the conditions laid down in the regulations for degrees in medicine with respect to the preliminary examination, and shall be examined in all the subjects necessary for graduation by the examiners of the university.

The Calendar further states that "so soon as within the university provision is made for the instruction of women in all subjects qualifying for graduation in which provision is made for the instruction of men, the conditions for the graduation of women shall be the same as the conditions for the graduation of men."

There is evidently a feeling in academic circles that the time has come when, in consequence of the growing number of the women students and as a means of relieving the difficulty of teaching them in the present school of medicine for women, the university should provide instruction for them within its walls. At any rate the Senatus Academicus had the matter before it at a largely attended meeting on June 28th (the new Principal, Sir James Ewing, being installed and presiding), and decided by a substantial majority to recommend to the University Court that the classes in the Faculty of Medicine should in future be open to women. The first step, therefore, has now been taken, and it is possible that the war which has brought about so many far-reaching changes may also throw open the gates of the university to the women students in medicine. The war has undoubtedly depleted the medical class-rooms of men students; it has certainly been one at least of the causes which have sent women in crowds into the medical profession and so thrown out of gear the existing extra-mural means for teaching women in Edinburgh, and it has emphasized the fact that women doctors will be increasingly called for in the immediate future. The action to be taken by the Medical Faculty and by the University Court will be awaited with great interest. No very long time now exists for making preparation for the winter session, and we understand that whilst most of the classes can still be suitably, if somewhat tightly, accommodated in the present extra-mural school, the calls of the anatomy students for a larger dissecting-room are insistent.

MILITARY ORTHOPAEDICS.

The *Glasgow Herald* announces that the Scottish Branch of the British Red Cross Society had resolved to add a new block to the Scottish National Red Cross Hospital at Bellahouston Park for the reception of wounded men who require orthopaedic treatment. The executive of the Scottish Red Cross has voted £5,000 for the establishment at Bellahouston of an institute for massage and electrical treatment, in a new block containing fifty-six beds. Orthopaedic treatment in Scotland will also be provided at Bangour Hospital, Edinburgh, and at Oldmill Poor Law Hospital, as well as at Bellahouston, where between 200 and 300 beds are to be assigned for the work.

Ireland.

DUBLIN CASTLE RED CROSS HOSPITAL.

A MEETING of the Committee of Management was held on June 29th at the hospital, when Mr. William M. Murphy, Chairman of the Finance and General Purposes Committee, presided. As this was the first meeting of the committee since the rebellion, a report from the resident medical superintendent was read, which showed the unprecedented work with which the hospital staff had to cope in connexion therewith. A further report from Captain H. V. Stanley, R.A.M.C., who had arrived on Easter Monday and taken over command of the stretcher party, and who, owing to the illness of the resident medical superintendent at the time, had to take charge of the hospital, was read. The committee confirmed, with approval, the letters of appreciation sent by the Finance and General Purposes Committee to the several gentlemen mentioned in the reports who had rendered such signal service to the hospital and to the

sick and wounded. Correspondence with the War Office was read relative to the rates of allowance for officers and men. The students of the Royal College of Surgeons having collected a sum of money for the equipment of a ward, the committee resolved to display a printed canvas bearing the College arms and a statement to the effect that "the students of the Royal College of Surgeons in Ireland have equipped a ward in this hospital." It was reported that the number of patients in the hospital on April 7th were 103, and that since there had been received 212, making a total of 315; since that date 256 had been discharged, leaving at present in the hospital 59. The total number received since the opening of the hospital was 1,303. During the rebellion no fewer than 202 patients were received, and for dressing purposes 250. Since the last meeting a number of gifts had been received in answer to the appeal for supplies of comforts for the wounded men, but the matron would be very grateful for tobacco, cigarettes, potatoes, vegetables, fruit, and jam.

England and Wales.

THE REFRESHMENT HOUSE EXPERIMENT IN CARLISLE.

AN interesting experiment is being made by the Central Liquor Control Board at Carlisle. The population of the city has been suddenly increased owing to the establishment of a large munition works within easy reach by train, and the quiet life of the border city seems to have been rather disorganized in consequence. The number of convictions for drunkenness in Carlisle has been increasing month by month; the convictions for drunkenness in April numbered 98, in May 114, and in June 139, as compared with 12, 12, and 10 in 1915. The total for the first six months of 1916 was 564, as compared with 72 in the first half of 1915. The assaults on the police also increased from 3 to 25 during the same period. The Board of Control has power to acquire any premises on giving ten days' statutory notice. The Board now proposes to deal with an area comprising the city of Carlisle (excluding two hotels) and the petty sessional divisions of Longtown and Cumberland Ward. Offices have been opened in Carlisle, under the superintendence of Mr. E. C. Sanders, general manager for the Board. The first step was to take means to provide additional accommodation for the workmen near the station, and for this purpose the Board has acquired the old post office, which is being converted into a place of refreshment and will be known as the Gretna Tavern and Coffee House. The use of the word "tavern," it was stated, was retained because the ancient true and principal use of taverns was to "provide food and shelter." In part of the building beer and stout and non-intoxicants, but no spirits, will be sold. The beer and stout will be brewed at one of the Carlisle breweries, and will be of the same strength as the beers and stouts now sold locally. In this part of the building there will be a stand-up bar for food. In another part, in a room 55 ft. by 40 ft., tables and chairs will be provided and food and drink of every description, except spirits and wines, will be sold. It is anticipated, however, that the chief business in this room will be in food and non-intoxicants. A kitchen is being fitted up, and local managers have been appointed. It is hoped that the house will be open within a fortnight. In addition, to meet the needs of men starting by early trains, the Board intends to provide three stalls at the station entrances, where tea, coffee, light refreshments, and tobacco will be obtainable from an early hour. The intention is to reduce the number of licensed houses in the city, but the extent to which this will be carried is not yet settled. The total number of houses acquired or to be acquired in the area is about two hundred. The Board is also acquiring four Carlisle breweries and their properties. What should be done with the houses belonging to the breweries outside the area is not yet decided. The guiding principle of the whole scheme is to provide real houses of refreshment, where good food will be obtainable under comfortable conditions and at reasonable prices, and where a customer who so desires can obtain draught or bottled beer. Great hopes are expressed locally that the experiment will be successful. It may be added that, owing to the large influx of munition workers, the Cumberland Infirmary has arranged with the Munitions Board to keep twenty-five beds always at its disposal for urgent cases, and that a small hospital is being established at Gretna for less urgent cases.

LIVERPOOL COUNTRY HOSPITAL FOR CHILDREN.

The report presented to the annual meeting of the Royal Liverpool Country Hospital for Children at Heswall, Cheshire, states that the daily average of beds occupied was 144, and the cost per bed £46. The Liverpool Insurance Committee maintained a large number of children suffering from tuberculosis (excluding pulmonary tuberculosis). Their education was not neglected, and for those who could profit by this training without interfering with treatment, a special school has been carried on to the satisfaction of the Board of Education inspectors. The salubrity of the surroundings has not escaped the eye of the War Office, and during the past year 142 sick and wounded soldiers have been under treatment. There is no doubt about the value of such a hospital, situated in the country away from the turmoil and noise of a large city. The importance of preventing in children chronic diseases leading to incurable disability cannot be overestimated, and this is the main object of the hospital. The average duration of stay was 176 days, or more than ten times the stay in an ordinary hospital. This hospital is said to be the fourth largest hospital belonging to Liverpool, and yet the beds in its wards are not sufficient to meet the wants of the city in this respect.

Correspondence.

ROYAL MEDICAL BENEVOLENT FUND.

SIR,—The Royal Medical Benevolent Fund, the great benevolent society of the medical profession, is sorely in want of money now.

Though in ordinary times the medical profession supports its own poor, in these war times this is no longer possible. At the May meeting the committee had a balance of only £17 in hand, and at the June meeting was faced with a deficit of £16. The demands were heavy and had to be met, and this could only be done by withdrawing £500 from the Bank.

As the direct outcome of the war, not only are the ordinary cases of poverty greatly increased in number but an entirely new class of case has arisen urgently requiring relief, in which, without actual poverty, there is great temporary distress—distress however which, it is hoped, will relieve itself soon after the war is over and the doctors serving return to their civil duties.

At the outbreak of war the medical profession responded freely to the nation's call. The territorial medical officers were at once called out, and other medical men volunteered. Both alike had to leave their practice at very short notice, and often without being able to make adequate provision for its continuance and maintenance during their absence. Their pay went but little way to supply the loss which their absence entailed, for the working expenses of the practice could not be materially reduced. The result was that many families found themselves in very straitened circumstances. Rent, rates and insurance brook no delay, but, worst of all, school bills could not be paid, and if help had not been quickly forthcoming the children would have suffered for the patriotism of their father.

The following are typical of the cases with which our Fund has had to deal:

A young doctor who had only been in practice a few years volunteered for service, and was killed in action a few days later. He left a widow, aged 35, with two young boys, aged 3½ and 1 year, entirely without means. The Fund voted £25 for her immediate necessities, and put her into communication with the Officers' Families Association, which gave further help.

A practitioner aged 38, earning £700 to £800, volunteered for service, leaving his practice in the hands of a neighbour who was not a success. There were two young children, and another baby was born shortly after the husband left. The wife contracted pneumonia and nearly died. A resident patient had to leave the house. Rent and other expenses led to a debt of about £80. This the doctor could not meet, and he hurried back from the trenches to save his home from being sold up. The Fund voted £25, the Guild gave £15, the Officers' Families Association £25, and the Professional Classes War Relief Council further help, with the result that he returned to the front with his immediate anxieties relieved.

A captain in the Territorials was called out, and had to leave

his practice in the hands of a locum who proved a failure. There were seven children, aged 2 to 14. Financial difficulties arose, and payment of the school fees became impossible. Between the Fund and Guild and Officers' Families Association the necessary funds were raised, and clothing which was greatly required provided.

These cases show well the way in which the Fund works, not only by giving relief itself in money and kind, but also by obtaining through co-operation with other benevolent societies more substantial assistance than it could afford alone.

But there is another class in which the distress is perhaps even greater, and adequate relief more difficult. It is that of men who left home and a good practice in vigorous health, and who have come back crippled by wounds or with health impaired to a practice severely damaged by their absence, and without the strength or energy to regain the practice and position which they sacrificed.

Our Fund has set apart a special sum to meet emergency claims of this kind, yet the demands are so great that it will soon be exhausted. We cannot now rely on the profession alone to supplement it largely, for the medical profession, like all other professions, is hit very hard by the war, and has no longer its old resources to draw upon.

What is required is an Emergency Fund large enough to deal adequately with these emergency cases arising directly out of the war, and for this we are driven to appeal to the public as well as to our profession.

We trust that our appeal will meet with a liberal response both from the public and from the medical profession, for unless fresh funds are quickly forthcoming it will be impossible to continue the relief which is so urgently required.—We are, etc.,

JOHN TWEEDY,
President.
SAMUEL WEST,
Honorary Treasurer.
G. NEWTON PITT,
Honorary Secretary.

11, Chandos Street,
Cavendish Square, London, W.,
July 1st.

MEDICAL PRACTITIONERS AND UNCERTIFIED MIDWIVES.

SIR,—I am directed by the President of the General Medical Council and the Chairman of the Central Midwives Board to send you for publication the accompanying copy of a correspondence which has recently taken place between a registered medical practitioner in England and the Chairman of the Central Midwives Board with regard to the conditions under which a medical practitioner may properly co-operate with an uncertified woman, not being a nurse employed by him, in attending a maternity case.—I am, etc.,

G. W. DUNCAN,
Secretary.

Central Midwives Board,
Caxton House, Westminster,
London, S.W., July 3rd.

June 8th, 1916.

Dear Sir,

Do you mind telling me if, in your opinion, the following case is that of "covering an uncertified midwife."

Mrs. ——, who was in practice before the Act, and who has since been crossed off the roll, or, to be strictly accurate, has resigned, still acts as a nurse, and tells everybody who comes to her that she cannot act without a doctor, and sends all the people to me. Am I justified in going to them? The instruction I give is that they are to send for me directly they want me, and in the event of the child being born before I arrive that the placenta is always to be kept for me to see.

As I have been in practice over thirty-five years, and done a good deal of midwifery, I am naturally anxious not to break the law, and sooner than do that I would rather tell Mrs. —— that I cannot go with her, either as a nurse or in any other capacity.

I am sorry to trouble you, but believe you are the Chairman of the Central Midwives Board.

Yours truly,

Littlemead,
Nutley, Uckfield,
June 12th, 1916.

Dear Sir,

In reply to your letter of June 8th, forwarded to me, in such a case as that which you mention, the woman having already been struck off the Midwives' Roll or having resigned:

You must take care that it is clearly understood that any patients whom you attend with Mrs. —— are *your* patients, and not hers, though she may have sent them.

In any dispute on this point the Central Midwives Board always goes on this principle, that the case belongs to the person who has undertaken to attend the confinement, *whenever it occurs* (day or night) *even if normal*. A monthly nurse summons the doctor so that *he* may conduct the delivery.

In many of the disputed cases it has been plain to the Board that this arrangement has not been made, but that the midwife and doctor have agreed that the doctor should *not* be called at night except in case of some abnormality, *or* that he should not be called to deliver *at any time* except in case of some abnormality. In these cases the Board holds that the case belongs to the *woman*, and that the doctor is covering her.

In your case I should *write* your instructions to the midwife, and should keep a copy in case of any dispute.

There is nothing to prevent Mrs. —— from acting as a *monthly nurse* under your orders. *You* are responsible for the cases, and for Mrs. —— nursing of them.

I am glad to help you, and only wish that more practitioners would adopt the course which you have adopted.

Believe me, yours very faithfully,
F. H. CHAMPNEYS.

June 14th, 1916.

Dear Sir,

I am more than grateful to you for your letter and advice. I have written to Mrs. ——, and enclose you a copy.

I wish to carry out the Act both in the spirit as well as the letter, and am naturally anxious not to run any risk myself.

With kind regards,
Yours truly,

June 14th, 1916.

To Mrs. ——,

I have made inquiries, and am quite willing to go with you—

(1) If you act as nurse *only*.
(2) If you look on the patient as *my* patient.
(3) If you send for me *before* the child is born. The only exception to this is where it is born in a hurry before your arrival, or directly after, before you have time to send.
(4) If you cannot keep to these instructions I cannot go with you at all.

THE LIFE-HISTORY OF *ASCARIS LUMBRICOIDES*.

SIR,—Will you allow me space to offer my warm congratulations to Captain F. H. Stewart, I.M.S., upon his work on the above subject (BRITISH MEDICAL JOURNAL, July 1st), the most important medical work which has been done for a long time past? The mode of entry of *Ascaris* has perplexed every one from the beginning of parasitology, because no intermediary host could be found or even suggested, while direct infection seemed unlikely for many reasons, in spite of the alleged result of various experiments. That rats and mice are apparently the intermediary hosts will come as a great surprise to many, and will constitute a valuable addition to medical zoology. But the importance of the find will be immense as regards tropical sanitation. These horrible parasites infest the whole of the tropics—India, China, Africa, and America—besides most temperate climates to a less degree, and I have always thought are often responsible for the physical weakness of millions of town dwellers in these countries. Of course they frequently cause little apparent illness, but every now and then have been known to produce serious results; and their prevalence is so enormous that the sum of the mischief due to them is probably very large. Captain Stewart's paper is as admirably written as it is scientifically important, and adds another disease to the account of rats and mice, and another reason why every one in the tropics should try to reduce these vermin as much as possible as a standing measure of tropical sanitation. His paper is also another proof of the common observation that important discoveries must wait until the proper kind of worker comes along to tackle them. I hope sincerely that, in spite of the war, every facility will be given to Captain Stewart to complete his invaluable work.

It may interest him to know that many years ago, in Bangalore, India, I put out slides containing ova of the human *Ascaris* in the sun on my verandah. The slides were left there for weeks without examination or water until they had become completely desiccated in the hot sunshine. But on examining them after a long period, amounting, so far as I remember, to something like six weeks or more, I was surprised to find that the embryos inside the eggs had fully developed, and were living and struggling as if to escape from the shells. I put them back in the sun after moistening them, but on examining them some weeks later still I found that they were still in the

eggs, but had all ceased to move. I gather, therefore, that the humidity which Captain Stewart refers to is not essential, at least for the human parasites and for their first development.—I am, etc.,

London, W., July 1st. RONALD ROSS.

THE PREPARATION OF CATGUT FOR SURGICAL PURPOSES.

SIR,—It is a pity that there should continue to be uncertainty among surgeons as to the best catgut prepared for operative purposes, considering that the perfection and simplification of the details were given to manufacturing chemists by Lord Lister in 1894, and described by himself in this JOURNAL on January 18th, 1908, p. 125, with a short note on January 23rd, 1909. These and a leading article on April 17th, 1909, are worth frequent study. Under the circumstances it may be worth while to repeat Lister's directions, the observance of which effectually sterilizes the raw catgut used.

The control suggested by Dr. F. J. McCann in the JOURNAL of July 1st, p. 30, might have a good effect if applied to the catgut made as suggested below, for, like himself, "I cannot understand why the market should be flooded with foreign produce, when a little more enterprise on the part of our manufacturers would help to keep the trade within the empire."

Directions for preparing Sulpho-chromic Catgut (BRITISH MEDICAL JOURNAL, *1908, January 18th, p. 125*).

"The preparing liquid must be twenty times the weight of the catgut; so, for 40 grains of catgut, 800 grains of preparing liquid are required. It is made by mixing two liquids, namely, the chromium sulphate liquid and the sublimate liquid.

"The sublimate liquid is corrosive sublimate 2 grains, distilled water 320 grains. The sublimate may be dissolved by heat, but the solution must be used cold.

"The chromium sulphate liquid is prepared thus: Chromic acid 4 grains, distilled water 240 grains. Add to this as much sulphurous acid (*P.B.* solution) as gives a green colour. If more is added the colour becomes blue, which shows that rather too much sulphurous acid has been used. It is well to reserve a few drops of the chromic acid solution to be added after the blue colour has just appeared, and restore it to green. Then enough distilled water is added to bring the green liquid up to 480 grains. Then add the sublimate liquid.

"The catgut is kept twenty-four hours in the preparing liquid, and is then dried on the stretch.

"*N.B.*—It is essential that the CrO_3 and SO_2 solutions be mixed before the $HgCl_2$ solution is added.

"Catgut prepared in this way remains actively antiseptic in its substance for an indefinite period" (as was shown by experiments given in Lord Lister's article). "But while the substance of the catgut is thus not only aseptic but powerfully antiseptic, its dry surface is liable to contamination by contact with septic material, and it is essential that, before being used, it be washed with some trustworthy germicidal liquid. My practice has been to put the catgut, like the instruments, in a 1 to 20 solution of carbolic acid about a quarter of an hour before the operation is begun. Any of the catgut that remains unused may be afterwards kept in a similar solution for any length of time without disadvantage.

"The essential precaution of purifying the surface of the catgut is, I fear, sometimes overlooked, the result being occasional suppuration attributed to defect in the ligature, while it is really the fault of the surgeon."

This catgut can be bought in the shops of any thickness requiring strength and of any thinness required by delicacy.—I am, etc.,

RUSHTON PARKER,
Professor of Surgery in the University of Liverpool, Lieut.-Col., R.A.M.C.(T.).

Liverpool, July 2nd.

THE SOLDIER'S HEART.

SIR,—I have to thank Sir James Barr for the courtesy of his reply to my query as to the method by which he excludes bacterial action from any part in the causation of "soldier's heart." It leaves me, however, with the impression that the exclusion is ill-founded.

Sir James tells us that the usual septic organisms of the mouth and nasopharynx and their effects are well known. I think few will be found to endorse this view. The very word "sepsis" is an acknowledgement of our ignorance of the bacteria involved, while clinical experience is daily opening our eyes to the number and variety of diseases which can be traced to dental (or nasopharyngeal) septic infection.

Sir James "sees much which appears perfectly harmless, even when the breath stinks." This seems to mean that he finds a healthy mouth and patient in presence of a stinking breath, and thereby he seems to me to discredit his claim to give an opinion on dental sepsis. I have never yet found a mouth free from clinical signs of inflammation in presence of stinking breath due to dental sepsis, and I suggest that Sir James Barr, in common with many others, dentists included, does not realize the less gross signs of inflammation in the mouth. If this be so, one may well question his statement that "there are many cases of the 'soldier's heart' without any evidence of sepsis or septic absorption, and the symptoms continue after the dentist has worked his sweet will."

I may be allowed to suggest that even if hyperthyroidism be the immediate cause, this in turn may be due to bacterial causes, possibly originating in dental sepsis. Myocarditis, possibly dependent on the same source, may also be suggested as a possible cause. The excessive fatigue to which the soldier is liable obviously opens the way to more serious results from an infection which the patient has hitherto carried about with him with apparent immunity. Perhaps some degree of "soldier's heart" is more common among civilians than Sir James knows.—I am, etc.,

London, W., July 4th. J. G. TURNER.

VENEREAL DISEASE AND SICKNESS BENEFIT.

SIR,—Your article in the JOURNAL of July 1st raises a very important question for the medical profession and their insured patients. I am doubtful, however, whether the method of dealing with the problem suggested by the Insurance Acts Committee will prove altogether satisfactory. It would be far better, and not really more difficult, to eliminate "misconduct" altogether as a justification for withholding sickness benefit than to set up a special exception in the case of venereal disease. Misconduct is extraordinarily difficult to define. It can rarely be proved to be the cause of disease. It can constantly be suspected. It can hardly ever be disproved. The stigma attaching even to an attempt publicly to deny it is so great that perfectly innocent insured persons silently suffer the injustice of deprivation of sickness benefit rather than contest the action of the approved society in withholding the payment on the flimsiest suspicion. In the few cases in which misconduct can be disproved this can sometimes only be done by aspersing another's morals. Insured persons have been deprived of benefit because the secretary of their approved society has thought that prolapse of the uterus, hydrocele, and enlarged prostate were always due to venereal disease, and that neuritis, gout, and arthritis were always due to drunkenness. It is uncertain whether misconduct means breaking the laws of morality, the laws of health, or the laws of the country. So experienced a member of the medical profession as our respected Chairman of Council, writing of the misconduct rules (p. 29), states that they "preclude any person suffering from an illness due to his own *fault* from receiving sickness benefit." If this were true, a man who caught cold because he forgot to take his umbrella with him on a showery day, might find his benefit refused. Either the misconduct clause should be ruled out by the Commissioners altogether, or misconduct should be defined as a proved breach of the laws of the country. If a man is convicted of burglary, of taking part in a prize-fight, or of being found drunk and incapable, it is unreasonable that he should receive sickness benefit for incapacity incurred in any of these exploits. But short of proved offences of this kind, the whole question of diseases of misconduct is full of obscurity, is an incentive to blackmail, and is a cause of great injustice. While we are about it, cannot we get rid of it altogether?—I am, etc.,

London, W., July 3rd. LAURISTON E. SHAW.

WOMEN MEDICAL STUDENTS AT KING'S COLLEGE, LONDON.

SIR,—I note that in your issue of July 1st Professor Halliburton states "that St. George's Hospital has made a step forward in admitting a limited number of women students to 'their' wards, and that the experiment has proved such a complete success that he is hopeful that other hospitals will follow their example."

Professor Halliburton, however, does not mention the fact, of which he is doubtless aware, that St. Mary's Hospital has already thrown open its doors to women students at the request of the authorities of the London School of Medicine for Women. Since May 1st women students have been admitted to the wards of St. Mary's Hospital for clinical instruction, and at the present time twelve are working there. This number, it is expected, will be largely augmented in October. No request was made for admission of women students to courses of instruction in preliminary or intermediate subjects.

In justice to St. Mary's Hospital Medical School I thought it my duty to place these facts before you.—I am, etc.,

JOHN F. H. BROADBENT,
July 3rd. Dean of St. Mary's Medical School.

*** The facts as to St. Mary's and St. George's Hospital were noted on p. 24 of the same issue of the JOURNAL as contained Professor Halliburton's letter.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following candidates were approved at the examination indicated:

THIRD M.B.—*Part II. Medicine, Pathology, and Therapeutics:* E. H. R. Altounyan, K. B. Bellwood, S. L. Bhatia, H. V. Deakin, E. H. Dendy, W. F. T. Haultain, S. H. M. Johns, V. C. Pennell, J. Rickman, W. G. A. Schüddekopf, B. H. Swift, H. A. Whyte-Venables, R. S. Woods.

UNIVERSITY OF DURHAM.

AT the Convocation held on June 27th the following degrees and diplomas were conferred:

M.D.—T. C. Storey.
M.D. (*for Practitioners of Fifteen Years' Standing*)—J. A. Barnes, H. E. C. K. Murray, M. H. Smith.
M.B.—H. C. Broadhurst, Mary R. Campbell, J. A. Charles, H. G. B. Dove, H. Evers, N. A. Martin, G. N. Metzger, D. O. Richards, W. O. F. Sinclair.
B.S.—H. C. Broadhurst, Mary R. Campbell, J. A. Charles, H. Evers, R. A. Hooper, N. A. Martin, G. N. Metzger, D. O. Richards.
B.HY. AND D.P.H.—J. E. Baker.

The following candidates have been approved at the examinations indicated:

FIRST M.B.—*Elementary Anatomy and Biology, Chemistry and Physics:* *Dorothy Holmes, *H. N. C. Jaffé, *Edith C. M. Jones, *M. Myers, J. E. Basham, W. N. Crowe, E. C. Dagger, S. W. Davidson, E. R. Dingle, Kate Gray, Mary L. Griffiths, G. A. Haydock, Margaret B. Herbst, W. E. D. Hodgson, H. Holtby, L. Hunter, T. H. Kirk, J. J. Laydon, M. A. R. Mansoor, G. McCoull, T. S. Severs, J. Silverston, J. Stonehouse, Kathleen M. W. Watts, A. G. Weston, A. Woodman.
SECOND M.B.—*Anatomy and Physiology:* *P. C. Arnold, *C. N. Armstrong, *E. D. Charles, Dorothy O. S. Blair, W. D. Forrest, E. Girgis, Mary I. A. Grimmer, J. Hetherington, G. Hurrell, L. Lavine, R. Sanderson, R. P. Wanless, A. H. Whyte.
THIRD M.B.—*Materia Medica, Pharmacology and Pharmacy, Public Health, Medical Jurisprudence, Pathology and Elementary Bacteriology.*—*J. Gilmour, *E. G. Anderson, *W. A. Freedman, Mary K. Henegan, W. A. Jaques, Phyllis Marriott, B. Sergeant, W. E. M. Wardill.
* With second-class honours.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—J. H. Albinson, H. Chadwick, R. Chevassut, W. Christopher, R. Colley, W. C. C. Easton, *E. W. Fish, Eva L. Glasier, G. Lapage, R. L. Newell, F. C. Ormerod, N. H. Perry, Dorothy Potts, G. B. Wild.
Forensic Medicine and Toxicology.—G. E. Archer, Alice M. A. Arnold, Mercy D. Barber, W. T. G. Boul, Hilda K. Brade, Frances G. Bullough, C. F. J. Carruthers, Kathleen L. Cass, Ruth E. Conway, J. Holker, N. Kletz, E. N. P. Martland, J. A. Panton, R. S. Paterson, A. B. Platt, Elizabeth C. Powell, J. Shlosberg, D. M. Sutherland, H. Taylor.
* Awarded distinction in Surgery.

THIRD M.B., CH.B.—*Pharmacology and Therapeutics and Hygiene:* N. Abdoh, T. H. Almond, Sybil Bailey, T. Colley, S. E. Critchley, F. L. Heap, A. N. Kirkham, J. Mills, Kathleen O'Donnell, Harriet R. L. Reid, Norah H. Schuster, L. J. Schwartz, Marie Wardman, F. L. Whincup. *Hygiene:* Mary G. Cardwell, E. Pigott, H. T. Savage, V. T. Smith, G. R. Wadsworth.

UNIVERSITY OF ST. ANDREWS.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B.—*Bessie M. Davidson, †D. W. Dawson, †V. S. Ewing, †Annie A. Fulton, †A. H. Harkins, *C. N. Little, †Gracie M. M'Rorie, †R. Norrie, †Amy M. Thoms.
SECOND M.B., CH.B.—*Physiology:* Margaret J. M. Cuthbert, Lorna Lennox, Mary R. Mitchell.
THIRD M.B., B.CH.—*Forensic Medicine and Public Health:* Frances Braid, Shiela Bridgeford, Annie R. Campbell, A. Chodak, J. M. Clark, J. C. Coutts, Mary I. S. Cuthbert, Kathleen I. David, J. Ferguson, D. Fisher, W. A. Fraser, J. Irvine, J. Kinnear, A. M M'Gillivray, J. C. M'Gregor, J. K. T. Mills, G. R. Rose, J. Shirlaw, Margaret W. Shirlaw, Dora M. Walker.
SECOND D.P.H.—*Practical Sanitation and Epidemiology and Sanitary Law and Vital Statistics:* A. C. Craighead, D. M. M'Gillivray.
* Inorganic Chemistry. † Organic Chemistry.

UNIVERSITY OF DUBLIN: TRINITY COLLEGE.

THE following degrees in the Faculty of Medicine were conferred at the summer commencements in Trinity Term held on July 1st, 1916.

M.B., B.CH., B.A.O.—Esther V. Adderley, A. A. L. Albertijn, L. Blumberg, C. H. Comerford, Violet M. Deale, R. M. Gordon, Marie A Hadden, P. A. Hall, T. J. Lane, E. Lipman, C. L. M'Donogh, E. O. Marks, C. C. Mecredy, F. J. Murphy, A. H. Price, T. Stanton, H. J. Wright, C. O. J. Young.
D.SC.—W. Caldwell (stip. cond.).
M.D.—Eileen M. Hewitt, T. D. Power.

Medico-Legal.

FORCIBLE FEEDING.

AN echo of the embittered controversies of two years ago was heard in the King's Bench Division on July 3rd, when an action for libel in respect of an article published in the issue of the *Suffragette* of June 12th, 1914, was tried. The plaintiffs were Dr. F. E. Forward, Dr. F. J. W. Sass, and Dr. W. D. Higson, who, at all material times, were medical officers at Holloway Prison. Mr. Gordon Hewart, who appeared for the plaintiffs, said that the organization responsible for the *Suffragette* was the Women's Social and Political Union. The publishers were the Women's Press, and part of the matter complained of was written by Dr. Frank Moxon. The defences of the Women's Press, Mrs. Pankhurst, Mrs. Tuke, Mrs. Fox, and Mrs. Sanders, had been struck out as the defendants had refused to obey an order of the court. Dr. Moxon had originally sought to justify, but had since written a letter in which he withdrew all charges against the plaintiffs. Dr. Moxon was not present; he is now serving with the R.A.M.C. in France. The libel had reference to the fact that a considerable number of women detained in Holloway prison began a hunger strike. The plaintiffs came to the conclusion that these women must be protected against themselves, and that it was their duty, if the women refused food in the ordinary way, to administer it by artificial means. The operation was a simple one of allowing food to enter by gravitation, and not by the use of a pump. Dr. F. E. Forward, in his evidence, said that every prisoner admitted to Holloway was examined, and, according to her condition, was sent into the prison or the hospital. Hunger-striking was very detrimental to health, and in such cases it was a doctor's duty to order artificial feeding. In this the judge, Mr. Justice Darling, concurred. In reply to counsel, witness said that he had never, when forcibly feeding any of these women, administered drugs of a sedative and hypnotic character; the charges made in the *Suffragette* were absolute falsehoods. Dr. Sass and Dr. Higson also denied that there was any truth in the statements of which they complained. The only question left to the jury with reference to the defendants was that of damages, which they assessed at £750, to be divided equally among the three plaintiffs. Messrs. W. H. Smith and Sons, who distributed the paper, were joined as defendants, but the jury found in their favour. It was stated that the Scottish Newspaper Press, which had printed the paper, had apologized.

The Services.

EXCHANGES.

CAPTAIN, R.A.M.C.(T.), M.O. Yeomanry regiment, desires exchange overseas or military hospital home or abroad.—Address, No. 2600, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

IT is announced that Professor Emil von Behring of Marburg has retired from active service owing to the state of his health.

THE Massachusetts State Legislature has appointed a commission to study sickness insurance, and to recommend legislation to be introduced in January, 1917. California has a similar commission at work on the problem. Bills for health insurance have been introduced in the Legislatures of New York and New Jersey.

Obituary.

GEORGE HARRY MELVILLE DUNLOP, M.D., F.R.C.P.E.,

FORMERLY SENIOR PHYSICIAN, ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.

DURING the last days of June news came from the front that Major Melville Dunlop, R.A.M.C., was suffering from pneumonia, and on July 3rd the sad intelligence reached Edinburgh from No. 6 Red Cross Hospital, Etaples, France, that the illness had ended fatally on that day. Meantime, Mrs. Melville Dunlop had been able to reach her husband's bedside, and was with him when he passed away. Dr. Melville Dunlop's face and figure were well known in Edinburgh streets till a little more than twelve months ago, when, as Major in the Royal Army Corps, he left for France; with the exception of a short week's leave quite recently, he had been at his post there ever since. He was in charge of the medical side of a general hospital, and was engaged alongside of his friend Professor Alexis Thomson of Edinburgh, who was doing surgical work there.

George Harry Melville Dunlop was born in Edinburgh fifty-seven years ago; he was educated at the Collegiate School and at the University, where he graduated M.B., C.M. in 1880, and proceeded to the degree of M.D. in 1884. He became M.R.C.P. in 1885, and F.R.C.P. in 1887. Among the junior appointments he held were those of house-surgeon at Leith Hospital and in the Royal Edinburgh Hospital for Sick Children, of clinical assistant in the skin wards, and of clinical assistant to the gynaecological department in the Edinburgh Royal Infirmary; but his life-work was centred in the Royal Edinburgh Hospital for Sick Children. He was elected an extra physician of that institution in 1886, and twelve years later he was advanced to the post of ordinary physician. This appointment he held for the maximum period of fifteen years, retiring in 1913. During these years of his hospital appointment Dr. Melville Dunlop also lectured first on diseases of children in the Extra-mural Medical School, and then, later, he gave clinical instruction in the hospital, and later still held the post of lecturer on diseases of children in the University of Edinburgh. He served for many years as an examiner in medicine and diseases of children for the Licence and for the Membership of the Royal College of Physicians of Edinburgh. Among other positions filled by him were those of physician to the Royal Blind Asylum and to the Royal Public Dispensary, Edinburgh. Dr. Dunlop's retirement, comparatively early in life, from his hospital duties set him free to render such help as his country required of him when the war broke out, and this help he very readily and very heartily gave. He has died whilst striving to bring to others the alleviations of suffering which the medical art offers, especially when administered by kindly and skilled hands. The measure in which his patients in Edinburgh missed his professional services (which he always gave as friend as well as physician) is that in which his work among the soldiers in France was accepted and appreciated; there was no more popular doctor than Dr. Melville Dunlop, and, as was to be expected, he was always the children's favourite.

Dr. Melville Dunlop was a member of several medical societies, including the Edinburgh Medico-Chirurgical and Obstetrical and the Harveian; and he made a number of notable contributions to the science of medicine. He wrote mainly on children's diseases, and his articles on chloroma, on cerebral tuberculous tumours, on syphilitic synovitis, on pneumonia, and on constipation in children are all worthy of study. Much earlier (1893) he contributed notes of six cases of myxoedema treated by thyroid extract, and his latest article was that on diseases of the colon, completed since the war began and published a few weeks ago in the third volume of the new edition of the *Encyclopaedia Medica*.

Dr. Melville Dunlop was eminently a friendly man, kindly, courteous, sympathetic, careful above the common of the name and reputation of a brother practitioner, and absolutely straight in all his dealings with his fellow men. He loved the open air too, and was an expert in fishing and shooting and curling and golfing. He was a strong supporter of the Church of Scotland, and whilst he was a Scotsman to the backbone, he had travelled and took wide views and had interests which found no narrow national limits. An appreciative writer in an Edinburgh newspaper describes Melville Dunlop as "a true friend, a bright companion, and a trusted physician," and whilst he was all these he was likewise a skilled specialist in pediatrics and the accomplished author of valuable articles couched in graceful English.

One of his former colleagues writes: He was a ready and inspiring speaker, and a popular and conscientious teacher in the wards. Although his contributions to medical literature were not numerous (he was often far too busy in other ways to write much) they were interesting and valuable, and they have been widely appreciated and quoted. In his hospital relations Dunlop was one of the best of colleagues—kind, unselfish, and "straight" in the last degree—and the staff to which he till lately belonged owed very much of its hearty good fellowship to the influence of his generous as well as genial personality. He was always a warm friend to what his heart and judgement approved, and an out-and-out opponent of what he held unworthy. His influence is one the loss of which cannot fail to be felt in the Edinburgh Medical School. Of his personal character and personal charm I need not write, but it was indeed no wonder he had so many friends.

DR. EVAN NAUNTON DAVIES, J.P., of Gadair-Wen, Pontyclun, Glamorganshire, died on April 26th, aged 60. He was born at Cymmer in the Rhondda Valley in February, 1856, and was the son of Dr. Henry Naunton Davies, Alderman and J.P. for the county of Glamorgan. He was educated at Cardiff and Taunton College, and studied for the profession at Guy's Hospital, which he entered in October, 1875. He took the diploma of L.S.A. in 1879, and that of M.R.C.S. in 1881. After assisting his father for two years he married and settled down in Penygraig, Rhondda Valley, in the district where his grandfather, Dr. Evan Davies, had practised before him. He retired from active practice in 1899, and a few years later removed to the country residence where he died. Dr. Davies was an active member of the British Medical Association, and in 1907 was President of the South Wales and Monmouthshire Branch; he was also a member of the Cardiff Medical Society. He took a keen interest in the Porth Cottage Hospital, was J.P. for the county of Glamorgan, for a few years was a member of the Glamorgan County Council, and served for a longer period on the Pontypridd Board of Guardians. He was buried on May 1st at Llantrisant Parish Church. He leaves a widow and three daughters.

Medical News.

AT the meeting of the Society for the Study of Inebriety, to be held at 4 p.m., on Tuesday next, at the house of the Medical Society of London, after a short presidential address by Sir W. J. Collins, Lord D'Abernon will speak on "Some aspects of the drink problem."

THE Harben lectures will be delivered this year at the Royal Institute of Public Health, 37, Russell Square, by Dr. A. C. Houston, Director of Water Examinations, Metropolitan Water Board, on Thursdays, July 13th, 20th, and 27th, at 5 p.m. The subject is "Rivers as sources of water supply."

A DISCUSSION on warfare injuries and neuroses of otological interest will be held by the section of otology of the Royal Society of Medicine on February 16th, 1917. Early notice is given because it is hoped that reports of cases will be sent, not later than November 30th, to Mr. E. D. D. Davis, F.R.C.S., 81, Harley Street, W., and that later on a further report on the progress of the cases, or pathological notes in any fatal case, may be sent, as it is intended to classify the reports in order to facilitate discussion.

THE Lady Priestley memorial lecture before the National Health Society was delivered by the Duchess of Marlborough on June 29th, the title of the address being "Saving the Children." After reviewing the causes of infant mortality, dwelling especially on the influence of the maternal health on the children, and of the effect of venereal diseases and alcoholism, the lecturer discussed possible remedies, and referred to the importance of ante-

natal care, longer absence of the mother from work, proper training and remuneration of midwives, the importance of breast-feeding, and the supply of pure cow's milk. The need for education of the girl, the adolescent, and the mother in personal hygiene, mothercraft, and domestic science was emphasized. Though some 750 infant welfare centres had been established there was great need for more, and for more health visitors. Finally, the importance of sanitation, adequate housing, and the prevention of overcrowding was discussed, and the development of garden suburbs, and cheap transit urged.

IN spite of a westerly wind people in Rouen on Friday, June 30th, knew from the sound of the guns that a vigorous bombardment was going on at the front, the nearest point of which must be at a distance of about ninety miles. We have not yet read of the guns being heard on this occasion in the south-east of England, parts of which are about the same distance from the front, but they have been heard on many others. In a paper on the audibility of the gun-firing in Flanders over the south-east of England September 1914–April 1916, read by Mr. Miller Christy and Mr. W. Marriott before the Royal Meteorological Society on June 21st, it was stated that the sound varied considerably; sometimes three to twelve shots a minute, each quite loud and distinct, were heard. They were believed to proceed from the bombardment by ships of the German positions on the Belgian coast. The sounds of firing have, as a rule, been more rapid, less distinct, and apparently more distant, due probably to fighting around Ypres, Dixmude, or Arras. The sound was faint, though unmistakable, from four to five shots up to one hundred a minute having been counted. This gun firing has been heard at one time or another over the counties of Essex, London, Kent, Surrey, and Sussex, the most distant place being about 150 miles from Ypres; it was heard usually when light surface winds prevailed, mostly between north and east, over the neighbourhood of the North Sea.

Letters, Notes, and Answers.

THE telegraphic addresses of the BRITISH MEDICAL ASSOCIATION and JOURNAL are: (1) EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard. (2) FINANCIAL SECRETARY AND BUSINESS MANAGER (advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard. (3) MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish office of the British Medical Association is 16, South Frederick Street, Dublin.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

INCOME TAX.

INCOME TAX inquires whether "the Income Tax Commissioners can claim tax on earned incomes at the rate of 1s. 6d. in the £ *plus* 20 per cent. for the whole of the financial year 1915–16."

*** The Finance (No. 2) Act, 1915, increased the rates by 40 per cent. for the last six months of the financial year, it being provided that this increase should take effect as a rise of 20 per cent. for the whole year. The minimum rate of duty was 1s. 6d. in the £, and the corresponding increased rate is therefore 1s. 9⅗d. in the £. In most cases this will operate to render an additional 20 per cent. of the January tax payable in July, but in those cases in which the total income of the person assessed was less than £600 the reduction in the scale of abatements effected by the same Act—that is, from £160 to £120, and from £150 or £120 to £100—will also increase the amount payable in July, and cause it to exceed one-fifth of the amount payable in January. Our correspondent does not give sufficient details to enable his point to be dealt with except in general terms.

W. P. has purchased a small practice, the consideration to be given by him being three annual payments of £100 free of interest. Can he make any deduction of these payments in making up his income tax return?

*** No. So far as our correspondent is concerned the payments represent further capital laid out in the purchase of a practice, and not expenses incurred in the conduct of that practice.

ANSWERS.

F. P. H. B.—In the last edition of Tomes's *Manual of Dental Anatomy*, edited by Dr. Marett Tims and Mr. Hopewell-Smith, it is stated that though the lower molars are commonly implanted by two roots, yet the groove in the median line of each root may be deepened so that four roots are produced; or this may happen with one root only, so that a three-rooted tooth is the result.

HARVEST BUGS.

M.O.H. writes in reply to "M.D.": I have had a good deal of experience of these bites, both personally and in regard to members of my family. I have found that the best treatment was the application of a minute drop of pure carbolic acid to the centre of the swelling. As a rule one application is enough, but in some cases a further treatment may be necessary. In the West of England these bumps are called "heat bumps" among the country folk, and many a poor child is dosed with nauseous concoctions under the delusion that his "blood is out of order."

LETTERS, NOTES, ETC.

THE "MEDICAL DIRECTORY."

MESSRS. J. AND A. CHURCHILL, publishers of the *Medical Directory*, appeal to members of the profession to return the annual circular of inquiry posted on July 4th as promptly as possible, since the difficulty in obtaining labour is embarrassing them as well as all other persons concerned with printing and publishing. Messrs. Churchill express the hope that medical men serving in the navy or army have arranged for the circular to be forwarded to them.

SCHOOL CHILDREN AND THEIR DISEASES.

J. C. MCWALTER, M.D., R.A.M.C.(T.) (Dublin), writes: The note on the inspection of school children in Boston (June 17th, p. 848) states that of 49,777 pupils only 24 had tuberculous pulmonary disease. This proportion—less than 1 in 2,000—seems incredibly small. I happen to have examined, just at the same time, a number of army school children. These are undoubtedly better fed and better cared for than the average child of the same age, but the proportion of tuberculous I found was between 1 in 100 and 1 in 200. On the other hand, the proportion of cardiac cases which I discovered was about one-third of that shown by the Boston figures. The proportion of the Boston children classed as "defective" is about 70 per cent. My figures showed a proportion very much the same if the presence of one or two carious teeth constituted a "defect." A more lenient standard of perfection would bring the "defectives" down to under 10 per cent.

VALUE OF TUBERCULIN TREATMENT.

DR. HAROLD DOWNES (Ilminster) writes: The point raised by "Medicus" as to whether the discontinuance of tuberculin was a leading factor in the cure of his laryngeal symptoms (on which I beg leave to congratulate him) is one which I will not attempt to answer, although I think most specialists in tuberculosis will agree that they have observed great benefit from the use of tuberculin, especially in laryngeal cases. I would like, however, to emphasize the extreme value of complete rest of the voice in these cases, a line of treatment not sufficiently recognized. I would strongly recommend the ordinary perforated zinc inhaler as an auxiliary. Let this be worn while the patient is in company with others and only laid aside when at meals or alone. A few drops of any essential oil are used, but the kind of inhalant is immaterial. Local applications to the larynx, when skilfully applied, are of great use.

MEDICAL HERALDRY.

DR. W. FINGLAND (Liverpool) writes: A short time ago (BRITISH MEDICAL JOURNAL, January 1st, 1916, p. 24) you presented your readers with an interesting article on medical heraldry. In the *Bibliophile*, vol. i, March, 1908, Dr. George C. Peachey, in his paper on "History in bookplates," figures some further examples of the armorials of medical men, together with some curious biographical information relating thereto. They include the names of:

Thomas Bradford of the city of Durham, Doctor of physick.
Sir John Hill, Physician, Author, Playwright and Editor, of Derham Place, Bucks.
William Henry Fitton, M.D., who by marrying a lady of means was able to retire from medical practise and devote himself to geological research.
Sylvester Douglas, Lord Glenbervie, the son of a country apothecary, one of the few members of the medical profession who have been raised to the peerage.
Benjamin Bates, M.D., of Little Missenden, Bucks, chiefly remarkable as being the last survivor of the so-called "Medmenham Monks."

Dr. Caius, the co-founder of Gonville and Caius College, Cambridge, as a charge in the arms granted to him in 1561 has, "on a square marble stone vert, *two serpents* erect, their tails nowed together azure."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.